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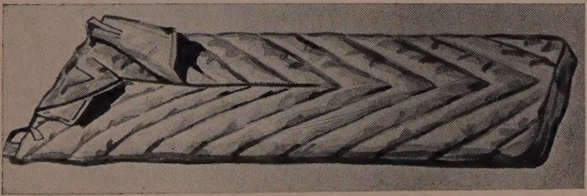

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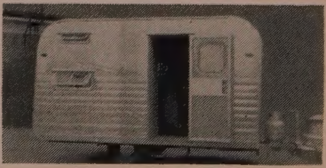

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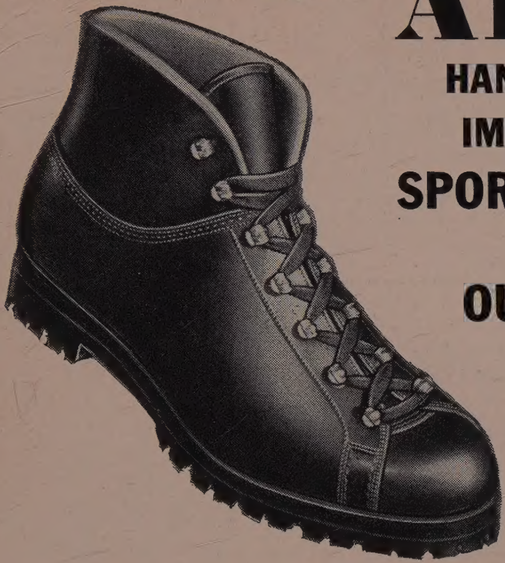

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> (Stanley W. Stocker, formerly Camping Survey Director of the American Camping Association, Martinsville, Indiana, has written articles for *Appalachia* on equipment and supplies. The first of the series, "Foods for Trail and Camp," appeared in the issue of June, 1958. Quotation from *Appalachia*—June 15, 1959 issue, page 366.)

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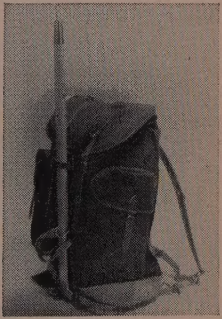

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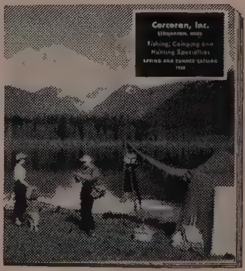
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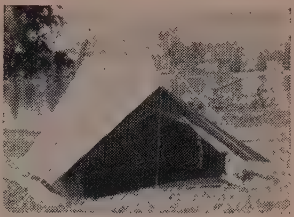

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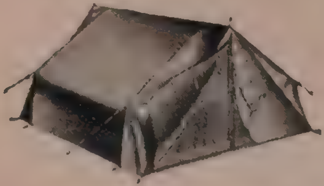

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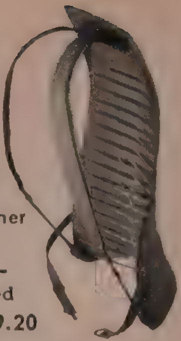

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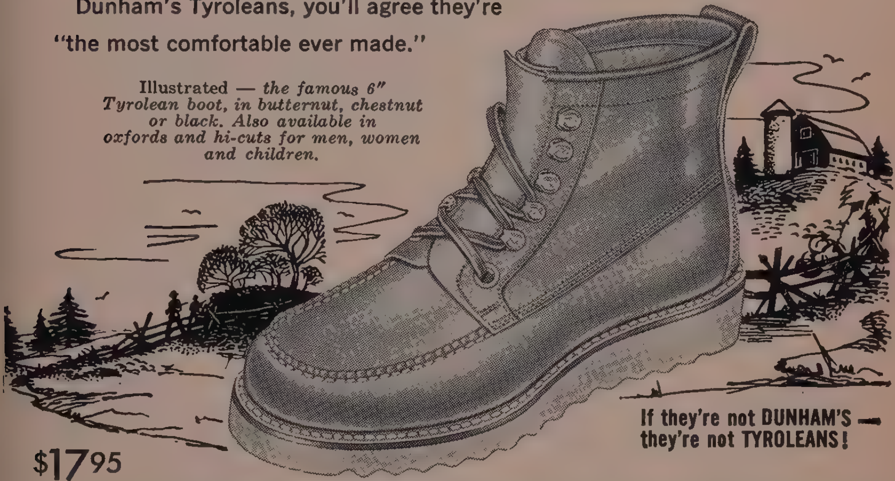

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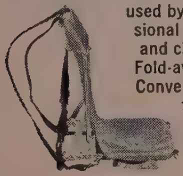

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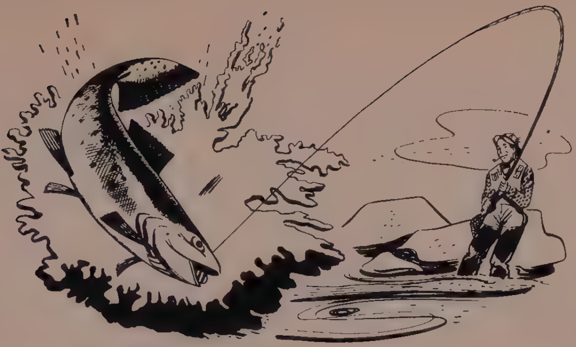

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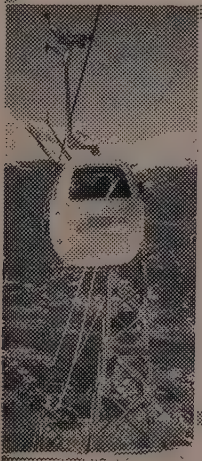

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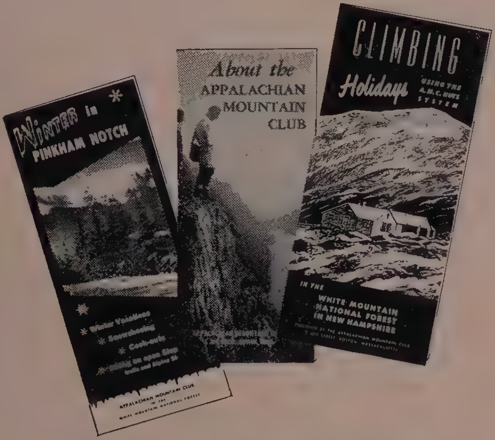

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APPALACHIA

JUNE 15, 1960 MAGAZINE NUMBER 130

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GARFIELD FROM SOUTH TWIN

(February 1960)

DEATH FROM COLD

Body Temperature and Physiological Change in Man During Fatal Exposure to Non-Freezing Cold

by MARLIN B. KREIDER

Sketches by Mary Ogden Abbott

MAN HAS INVADED EVERY CLIMATE EXTREME and has survived. His survival in the cold is due not primarily to physiological adjustments of his body but to the intelligence which he employs to create a "neutral" micro-environment around his body. This includes construction of insulated buildings, igloos, rain shelters and clothing resistant to cold and wind. He also adopts living habits which avoid exposure to the elements. For example, some groups of Eskimos simply refuse to leave their shelter when the weather is bad.

There is some difference between races and individuals in the amount of cold exposure that can be tolerated. Recent studies on the aborigines of Australia show that they can tolerate lower temperatures than Caucasians, but this added tolerance is small in relation to the great amount which would be needed to survive without external protection in the colder climates of the world.

Recently we have been made more aware of physiological limitations by the tragic deaths of climbers in the White Mountains of New Hampshire during the summer months. It is unbelievable to most people that death can be caused in less than 24 hours by exposure to temperatures which, while low, are still above freezing.

This article deals with some of the principles of thermal equilibrium of the human body with the environment, and the functional changes that take place during fatal exposure to cold.

AVENUES OF HEAT LOSS FROM THE BODY

Heat is produced continually by the body as a result of the life processes. This heat must not be lost faster than it is produced or body temperature will be lowered. One of the methods of

---

MARLIN B. KREIDER, a member of the Club, is a physiologist attached to the Army Quartermaster Research and Engineering Command at Natick, Mass. His work here leads him into the problems of the effect which various environmental stresses have upon the human body; furthermore, he himself has been a member of an Army test team to spend parts of two winters in research in subarctic areas and one summer in the desert.

Dr. Kreider has led many parties on mountain climbs, has engaged in rock climbing and skiing, and has climbed in the Rockies and the Austrian Alps. One of his hobbies is cave exploration, which has led him into many caves in the eastern United States, including more than ten which were previously unexplored. He is chairman of the Boston chapter of the National Speleological Society.

maintaining the temperature is through control of the loss of heat. Various avenues of heat loss are briefly reviewed (Fig. 1).

1. *Through radiation.* Heat is transferred from the surface of exposed skin or clothing to objects such as walls and rocks close by, or the sky in the distance, in much the same fashion as heat is transmitted to our bodies from the sun. Loss from radiation to the sky is not so noticeable during the day when the sun is out because of the greater radiation of the sun to our body. This process takes place regardless of the temperature of the surrounding air. The effective temperature of the sky may be more than 50°F. lower than the ambient temperature. On the desert, for example, at night the air temperature may be a hot 90°F. but because of a sky temperature of 40°F. a blanket is required to decrease the radiation and keep a sleeping man warm. Much less heat is radiated from the blanket surface than from the skin. Any covering or extra layers of clothing reduce the loss of heat by radiation.

2. *Through conduction.* During direct contact with other objects heat flows to the areas of lower temperature. This flow is

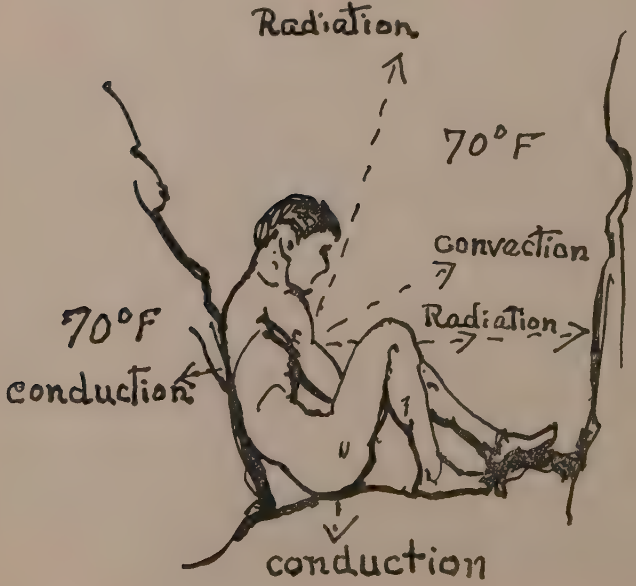


FIG. 1. THE MAJOR AVENUES OF HEAT LOSS FROM THE BODY

Effective sky temperature 50°F. or less. Clear day or night. Man not in sunshine. (Radiation to sky is most rapid in cloudless weather out of the sun's rays.)

much more rapid in good conductors, such as many metals and glass, and accounts for the much colder sensation on touching one of them than when touching a poor conductor such as paper and wool, even though both may be maintained at the same environmental temperature.

3. *Through convection.* Air warmed at the skin surface will rise and cooler air will move in. The wind, likewise, contributes greatly to convective heat loss. Some movement of air over the skin and through the layers of clothing is also caused by body movements.

4. *Through evaporation.* Heat is removed by the evaporation of sweat or water from the skin or clothing. With each gram of water vaporized 580 calories of heat are utilized and lost. This avenue of heat loss is important even in cold climates. Considerable amounts of sweating may occur (which may moisten the clothes) during periods of activity. Evaporation of the moisture from the clothing may produce cooling in a later period of rest when heat loss is critical. At the same time when clothing is wet it loses much of its insulating quality.

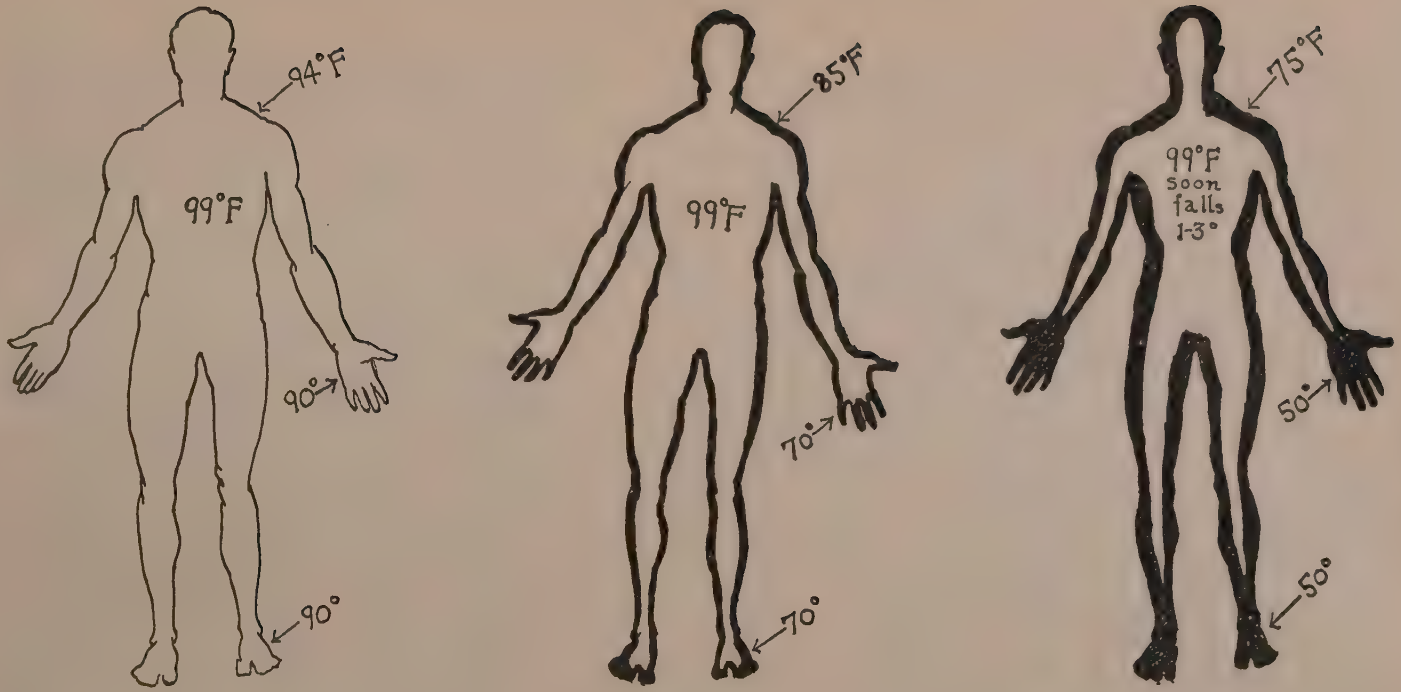
At this point it is interesting to note that in a preliminary study by the author of twelve deaths from cold exposure in mountain or wilderness accidents it was found that in every case the clothing had been water-soaked.

Heat is also lost in warming and moistening inspired air which is subsequently breathed out again. To a minor extent, heat is lost through excreta and urine.

Methods of Maintaining Body Temperature

In order to maintain body temperature within the very narrow range of variation compatible with normal performance and comfort two major methods are employed. The heat production of the body may be increased or the rate of heat loss may be decreased. Heat production may be increased by exercise or by shivering, and heat loss be decreased by using insulation such as clothing or by a physiological response called peripheral vasoconstriction.

The amount of heat produced during exercise can be considerable. It is a common observation that before trampers have progressed far on the trail they must unbutton their clothing at the collar and sleeves or remove various articles. Visitors to Arctic-like environments have learned, to their surprise, that providing they are dressed reasonably well it is generally possible to warm up by increasing the level of activity. Anyone standing on a cold street corner waiting for a bus will become warm by simply running or stepping in place. (However, some types of exercise produce a movement of air over the body which accelerates heat



A. Comfortable Warmth

B. Mild Cold

C. Severe Cold

FIG. 2. EFFECT OF COLD EXPOSURE ON VARIOUS BODY TEMPERATURES

Schema showing a typical example of the temperatures which might exist in the deep or "core" areas and the peripheral or "shell" areas of the body when exposed to various environmental temperatures. These two indefinite divisions of the body are the result of the constriction of the blood vessels in the periphery, thus holding the heat in the deep areas of the body. As a result the skin cools more.

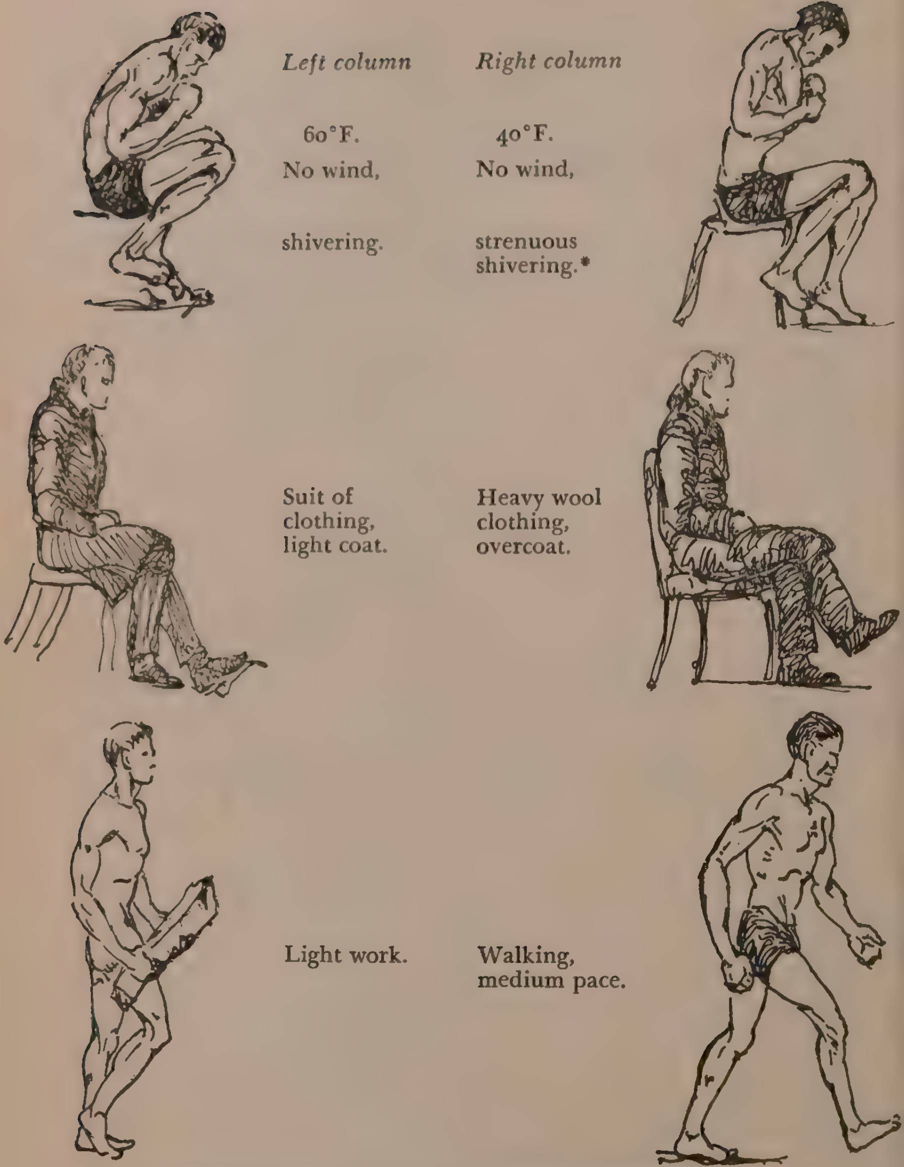
loss.) Very strenuous exercise can increase heat production as much as twenty times the resting level, whereas more moderate exercise, such as cross-country running and field marching with a heavy pack, may produce a six-fold increase. It would follow, then, that if one is physically fit following a period of physical training he would be able to exercise more and, thus producing more heat, would survive longer.

Shivering is one of the body's main physiological defenses against the cold. This may vary from light imperceptible muscular contractions to uncontrollable spasm-like movements of the body. The maximum heat that can be derived from shivering is about the equivalent of that produced by running slowly. A lower level of shivering can be maintained for long periods of time. In controlled laboratory studies, men dressed only in shorts lived day and night for two weeks at 60°F. and showed no signs of fatigue from shivering, or a deteriorating thermal balance.

Another physiological defense against the cold is peripheral vasoconstriction. As the colder air touches the skin the peripheral blood vessels constrict. This involves blood vessels in the skin and in the tissues below. A decrease of blood flow to these areas results, allowing them to cool (Fig. 2). With a cooler periphery the temperature gradient between the skin and the cold surroundings is reduced and less heat is lost from the body. The periphery or shell now acts partially as an insulating layer to reduce the heat transfer from the deeper areas or "core" of the body to the environment. Rectal temperatures are generally measured as a sample of the core temperature. Layers of fat may serve as further insulation. At the same time the heat produced by the body is spread through a smaller mass, which allows the temperature of this mass to remain higher. In fact, for the first hour or more of medium cold exposure the core temperature may rise, and then fall as cold exposure continues. This method is not unlike the simple cooling system of a car, the thermostat opening or closing to control the escape of hot water to the periphery, the radiator, to be cooled. Generally, the extremities of the body, the hands and feet, are most noticeably affected by the constriction and soon reflect the cold exposure (Fig. 2). Once the extremities are cooled by this method it is difficult to rewarm them short of rewarming the whole body.

There is a great variation in the protective qualities of clothing. Clothing reduces the heat loss through all four major avenues. Numerous layers of clothing, either containing air pockets themselves or enclosing layers of air, greatly increase the insulation. A layer of clothing of a tight weave with special chemical treatment gives added protection in wind and rain. Wet clothing affords considerably less protection than does dry clothing.

The amounts of exercise or clothing necessary to maintain



Left column	*Right column*
60°F. No wind, shivering.	40°F. No wind, strenuous shivering.*
Suit of clothing, light coat.	Heavy wool clothing, overcoat.
Light work.	Walking, medium pace.

FIG. 3. METHODS OF MAINTAINING BODY TEMPERATURE

Activity or clothing necessary to maintain a man in thermal balance when exposed to various environmental conditions. These clothing and exercise levels are based on an ideal; the maintenance of the skin at the normal neutral temperature. However, man can live and carry on normal activities indefinitely at lower levels of protection and exercise. Clothing requirements when wind is present, as at 40°F., 5 m.p.h. wind (see next page) are reduced by a windproof layer. Wet clothing offers considerably less protection than dry clothing.

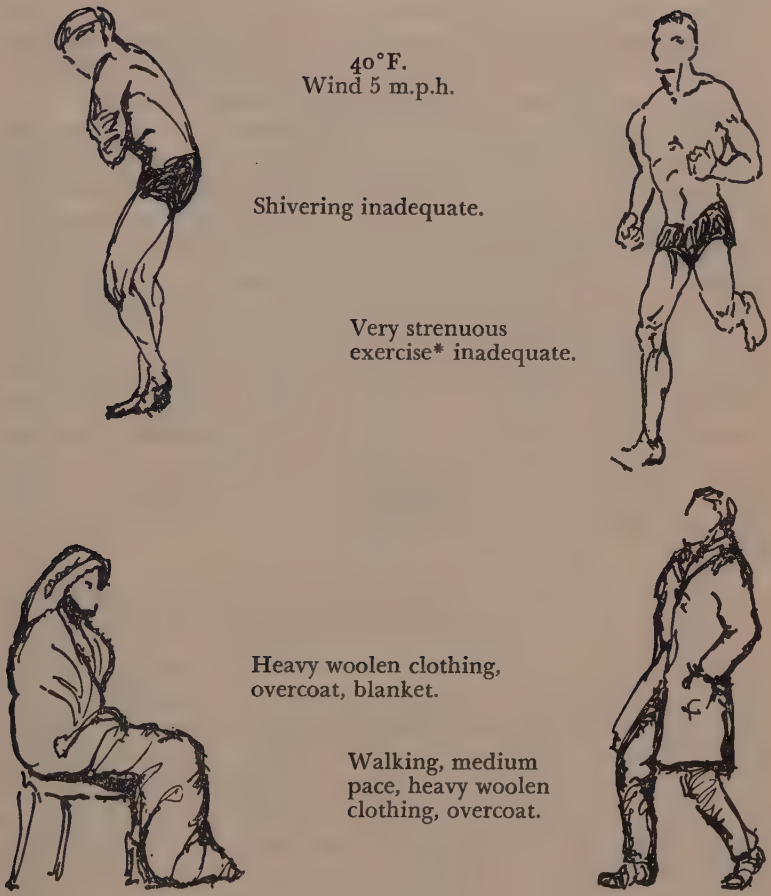

40°F.
Wind 5 m.p.h.
Shivering inadequate.
Very strenuous exercise* inadequate.
Heavy woolen clothing, overcoat, blanket.
Walking, medium pace, heavy woolen clothing, overcoat.

FIG. 3, *cont.*

* Very strenuous shivering or exercise can be maintained for only short periods of time.

thermal balance and comfort for an indefinite period of time under various environmental conditions are shown schematically in Fig. 3. A semi-nude man at rest will be in temperature equilibrium at ambient temperatures of 80 to 86°F. with minimum radiation. If the man is now placed in an ambient temperature of 60°F., in no wind, he may do one of three things: either put on more clothing, shiver or exercise. Generally, he will use various combinations of these factors. The amount of clothing required would be the equivalent of a business suit and light coat, and the amount of exercise, light housework.

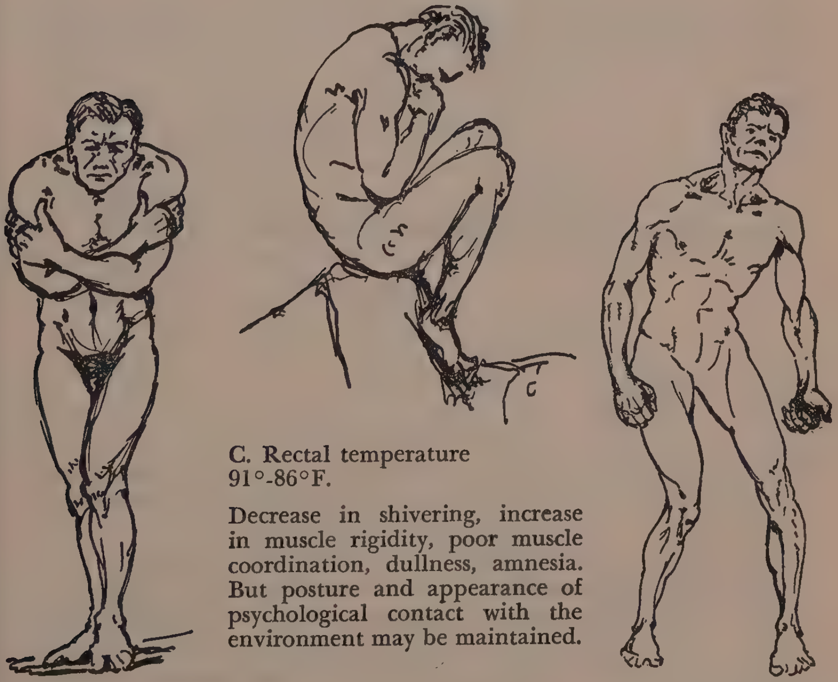
If the same man was exposed to 40°F., in no wind, he would be unable to maintain the normal neutral temperature in shorts by violent shivering. To remain warm he would have to wear heavy woolen clothing and an overcoat, or walk at a medium pace. Movement of air over the body accelerates the loss of heat at temperatures below the critical temperature. The amount of heat lost may be increased three or four-fold by wind. Therefore, if the same man was exposed to a 5 m.p.h. wind at 40°F. he would experience considerably more cold exposure. Shivering would be inadequate in shorts, heavy woolen clothing with overcoat and blanket would be needed when resting. Very strenuous exercise, which could be kept up for only a limited time, could not maintain the skin at the normal neutral temperature when dressed in shorts. Generally, a combination of exercise and clothing are used. Therefore, walking at a medium pace with heavy woolen clothing and an overcoat would be adequate to maintain the normal neutral skin temperature. It would be possible to live and work at lower levels of exercise and clothing, for long periods, by not holding the skin temperature at such a high level and allowing the condition shown in Fig. 2B to exist.

PHYSIOLOGICAL CHANGES DURING COLD EXPOSURE RESULTING IN DEATH (FIG. 4)

The first response to exposure to cold is vasoconstriction, which aids in maintaining the core temperature by allowing the skin temperature to drop. This may occur at ambient temperatures as high as 78°F. in a semi-nude subject. Very shortly thereafter shivering begins. If these processes are adequate to offset the heat loss, core temperature will change little (Fig. 2C); if not, it may soon drop. At a core temperature of 99° to 96°F. shivering may become very intense and uncontrollable, which may decrease the ability to perform various tasks. General fatigue may follow several hours of violent shivering. In many practical situations the period of cold exposure has been preceded by many hours of strenuous exercise. It is conceivable that fatigue may be so great that sleep may take over during periods of rest and the body cool rapidly to the point of death. Associated with fatigue is a decrease in the amount of the available food in the body. The intake of food, especially in the form of glucose, may stop the temperature drop for a while and increase the survival time.

As the body cools to temperatures of 96° to 91°F. violent shivering and vasoconstriction persist and are accompanied by hyperreflexia (an increase in the sensitivity and response of the reflexes), dysarthria (difficulty in speaking), delayed cerebration and decreased sensitivity of some basal brain centers. Amnesia may follow.

In the range of core temperatures of 91° to 86°F. shivering decreases and is replaced by strong muscle rigidity. Muscle coordination is affected, producing erratic or jerky and less dependable movements. Thinking is not so clear and the general comprehension of the situation is dulled and may be accompanied by amnesia. It is generally possible to maintain the posture and the appearance of psychological contact with the environment. As the temperature reaches 86°F. and below, periods of unconsciousness and stupor may be followed by hallucinations and delirium. Irrationality develops and psychological contact with the environment is failing. The subject may do or say things detrimental to his own welfare. Muscle rigidity persists, but decreases as the temperature approaches 80°F. The subject gives the appearance of relaxation and indifference as he lies on the cold ground. Metabolic processes slow down along with the heart and



C. Rectal temperature 91°-86°F.

Decrease in shivering, increase in muscle rigidity, poor muscle coordination, dullness, amnesia. But posture and appearance of psychological contact with the environment may be maintained.

A. Rectal temperature 99°-96°F.

Vasoconstriction, violent shivering.

B. Rectal temperature 96°-91°F.

Vasoconstriction, violent shivering, hyperreflexia, dysarthria, fatigue, delayed cerebration, decrease in sensitivity of some basal brain centers, amnesia.

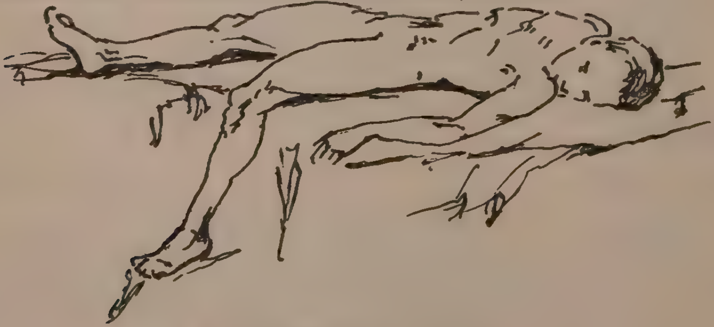
Fig. 4. Schema showing deterioration in physiological and functional performance at various rectal temperatures during a period of continuing cold exposure.

Rectal temperature 86°-80°F.

Irrationality; loss of contact with environment; stupor; continuation of muscle rigidity (which decreases in lower part of temperature range); decrease in cardiac and respiratory rates; cardiac arrhythmias; hypotension.

Rectal temperature 80°-78°F.

Unconsciousness, no response to spoken word; decrease in metabolism; greater decrease in cardiac and respiratory rates; greater cardiac arrhythmias and hypotension; abolition of many reflexes.



Rectal temperature 78°-75°F.

Fibrillations; failure of pacemaker in heart; failure of cardiac and respiratory centers in brain; possible lung edema; death.

Fig. 4, *cont.*

respiratory rates and may be accompanied by cardiac arhythmias (irregular heart beats) and hypotension (low blood pressure). In cold-blooded animals this slow-down is normal, but not in man. Under ideal laboratory conditions core temperature of man has been held at this level for at least twenty-eight hours without any apparent damage. But it is doubtful whether, in any accidental exposure situation where conditions are not ideal and a considerable amount of fatigue and anxiety have preceded this temperature level, the body would survive long. To the author's knowledge this point remains untested. This temperature level is, however, only a few degrees from the point of death.

As the core temperature decreases below 80°F. unconsciousness persists except for brief moments of arousal by some special stimulation, i.e., loud sounds, physical manipulation, etc. Most of the reflexes cease to function. At any point the heart may begin fast irregular contractions called fibrillations, which are ineffective in circulating the blood. This is followed very shortly by a cessation of heart and respiratory action. It is possible for the heart to stop without the preceding fibrillations. Death probably occurs thus, from the functional failure of the nervous system, i.e., centers in the brain or the "pacemaker" in the heart. There is some evidence that pulmonary edema may also be involved. Death from cold exposure occurs generally within a few degrees of 78°F. (rectal temperature). There is one recorded case of survival after a rectal temperature as low as 65°F. had been reached.

Resuscitation (Recovery)

How far must the temperature fall to preclude recovery? What can be done to assist recovery? In the fatal exposure of two young men on a ledge on Cannon Mountain, New Hampshire, there were some signs of life when the rescuers arrived. The question on the minds of many people was, "Wasn't there something that could have been done to keep them alive?"

Not much information exists, for human beings, on the lowest temperatures compatible with survival. Possibly the lowest limit at which survival could generally be effected is around 82° to 80°F., rectal temperature. However, rewarming would have to begin two to four degrees higher in order to allow for the temperature drop which occurs in the earlier part of rewarming. Factors such as the length of time of exposure, the physical condition of the subject, the age, and many other factors would determine the exact level of the fatal temperature for each individual.

One of the methods of rewarming, if not the best, would be very rapid rewarming by immediate immersion in warm water around 110°F., accompanied by heart massage if necessary. But where can a tub of warm water be found on a mountain? Even this method is not successful if the body temperature is already too low, since in the early phase of rewarming the rectal temperature may drop a few degrees lower. This results from a reversal of the circulatory phenomenon which took place at the beginning of cold exposure. As a result of heat application to the skin, a vasodilatation of the blood vessels occurs and blood pours through the cold tissues. This blood, cooled below the core temperature, produces its damage as it flows back through the heart and brain. Death may come a few minutes after rewarming has begun.

However, by rewarming rapidly this period when cooler blood is reaching the heart may last for only a few minutes, during which time artificial methods of heart and respiratory stimulation may be used.

Very slow rewarming over a period of twelve hours or more could be used. In this case the body rewarms itself when placed in a mild temperature of 60° to 70°F. and the blood which has been cooled by the peripheral tissues returns to the heart very slowly. Fast rewarming is the preferred method when the cooling has been rapid and slow rewarming when the cooling has taken place over a long period of time. Any methods of moderately fast rewarming should be avoided, because they prolong the period during which cooler blood is being returned to the heart.

Other methods showing various degrees of success with animals involve the application of heat to the tissues close to the heart. In one method heat is applied by placing a warm object on the chest wall over the heart, or preferably by irradiating with high-frequency microwaves focused on the heart. Artificial respiration must frequently be supplied. In another method heat is introduced internally into the esophagus and held at the level of the heart. These methods may be more possible logistically in a field situation than a tub of warm water, yet they remain untested for human subjects. Possibly the practice of taking hot drinks would be somewhat similar, but the actual heat transferred to the heart would be negligible.

Drugs taken by mouth or cardiac puncture have been suggested, but none appear useful. Breathing oxygen was not helpful in animal experiments. It appears, then, that one of the first actions when reaching someone suffering serious incapacitation from lowered body temperature in a field situation should be to increase his protection from the cold. This may require removing wet clothing, drying the body piecemeal, and reclothing with dry, warm clothing. Probably more insulation between the subject and the ground might be necessary. He should immediately be placed out of the wind. The subject (if unconscious) should remain in a prone position, with head tilted up or backward to assure an open airway for breathing. The mouth and throat should be checked for obstructions. This employs the slow method of rewarming, which is the practical one available until a method of rapid rewarming is developed which is adaptable for field use.

SUMMARY

The ability of man to live in the cold depends largely on his ability to decrease the rate of heat lost from his body through radiation, conduction, convection and evaporation. Physiological adjustments such as vasoconstriction, shivering and muscular exercise contribute to his survival to a lesser degree. When heat is lost from the body faster than it can be produced, body temperature must drop. This may occur at temperatures considerably above freezing and will depend largely on the amount of insulation and wind involved. The body can tolerate changes in core temperature of only a few degrees below 99°F. without noticeable physiological and functional deterioration. Below a core temperature of 86°F. psychological contact with the world around is lost. Below 80°F. many functions cease and death is imminent. Rewarming should be either very fast or very slow. However, fast rewarming will remain impossible in a field situation until a method is developed.

AROUND BIG BEND ON THE RIO GRANDE

by Willard L. Dayton

Following our canoe trips down the Current River (Missouri) in 1956, the Glen Canyon of the Colorado in 1957, and the Coulonge River in Quebec in 1958, my wife and I decided in 1959 to try the Rio Grande where it flows around Big Bend National Park between Texas and Mexico. The best time for this trip is November through February, when the river flow is most constant and the temperature more agreeable. In the summer this last rises to 110°—but on a couple of mornings in late November we crawled out of our tents to find a temperature of 19°! It usually warmed up to about 70° during the day and we could paddle in light clothing.

The Park authorities control travel on the river and it is necessary to get their permission to make the trip. This is granted on the basis of previous experience and inspection of equipment. They strongly advise against using canoes and recommend rubber rafts, but we found canoes entirely safe when combined with adequate white-water experience and a reasonable amount of caution.

The Big Bend country is completely unlike the flat country of northern Texas, having two ranges of mountains, the Chisos and the Sierra del Carmen, with peaks up to 8000 feet. Around the Park border the Rio Grande flows through three major canyons, Santa Elena, Mariscal and Boquillas. The walls of these canyons rise in places 1600-2000 feet vertically from the river, which may be less than 50 feet wide, making an awesome spectacle. Between the canyons the river flows through desert country, but nearly always the current is swift. Rapids are frequent and exciting.

There were four in our party—Dr. and Mrs. Richard Walker of Whippany, N. J., Florabel and myself. Having only two weeks' vacation, and expecting to spend ten days on the river, we had to drive day and night to make it in the time available. This we did, in considerable comfort, by fixing up our station wagon so that three could sleep while one drove. We left Mountain Lakes, N. J., Friday evening, November 20, spent Saturday

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Willard R. Dayton, a member of the Club living in Mountain Lakes, N. J., is a security analyst, a graduate of the Harvard Business School. An ardent canoeist, he seeks out white water in the spring, takes a longer trip in the summer, and paddles the charming South Jersey rivers in the fall. A most interesting avocation is skate sailing, in which he has much experience; he is Vice-Commodore of the Skate Sailing Association of America.

night in a motel outside St. Louis, and arrived at Park Headquarters early Monday afternoon, feeling quite fresh after driving 2,200 miles.

The Park authorities having approved our equipment, we obtained the necessary permit and camped that night in the Basin, a deep hollow in the Park surrounded by jagged mountains. The next morning we drove 50 miles to the put-in place at Lajitas, taking with us a young man who was to handle the car shuttle. The actual river trip started at noon, and we were soon in rapids. While we were looking over a difficult one, two Mexicans rode up on horses and gravely shook hands. They couldn't speak English and we couldn't speak Spanish, but their friendly intentions were obvious. They watched us through the rapids and then continued on with their herd of goats.

That night we camped on the river edge with a towering cliff across the stream. After dark we began hearing loud *plops,* as though someone were tossing large rocks into the river from the cliff above. After awhile we discovered that the noise was made by beavers, and they were found all through the trip. Campsites were easy to find, often within five minutes after deciding it was time to stop for the night. Driftwood fuel was always available. We had a two-gallon canteen which we filled from springs or side creeks where possible, but most of the time we boiled the river water.

The next day warmed up so that soon we were paddling in shorts. There were nine lovely rapids in succession, which we ran with much fun and picture-taking. We lunched about noon at the entrance to Santa Elena Canyon. It looked narrow, dark and forbidding, and gave us a feeling of "abandon all hope, ye who enter here". We put on heavy clothing, which was a good idea because it turned out to be cold inside. There were rapids where cross-currents swirled into the canyon wall and taxed our skill to keep clear of it. Then we came to the big slide, where for a quarter-mile the channel is blocked by huge rocks. We knew this was coming, but not so soon, and almost went beyond the point where we could turn back. We hauled the canoes back to where we could set across to the other side, and then began the portage.

This was the most difficult portage I have ever encountered. The slide rose up about 300 feet and the only place it could be crossed was close to the canyon wall. There was no trail, and it was a heavy and awkward job to carry canoes and gear up over the rocks. After one trip we decided to camp on a narrow ledge near the top of the slide, thus dividing the carrying between two days. There was barely room to pitch our tents, and it was an eerie place to be after dark, with the canyon wall rising high above us, only a narrow slit of sky overhead, and the river roaring below. We had some concern about rocks being dislodged and falling on us, but nothing happened and we completed the portage the next morning, which was Thanksgiving Day. That night we had turkey with cranberry sauce.

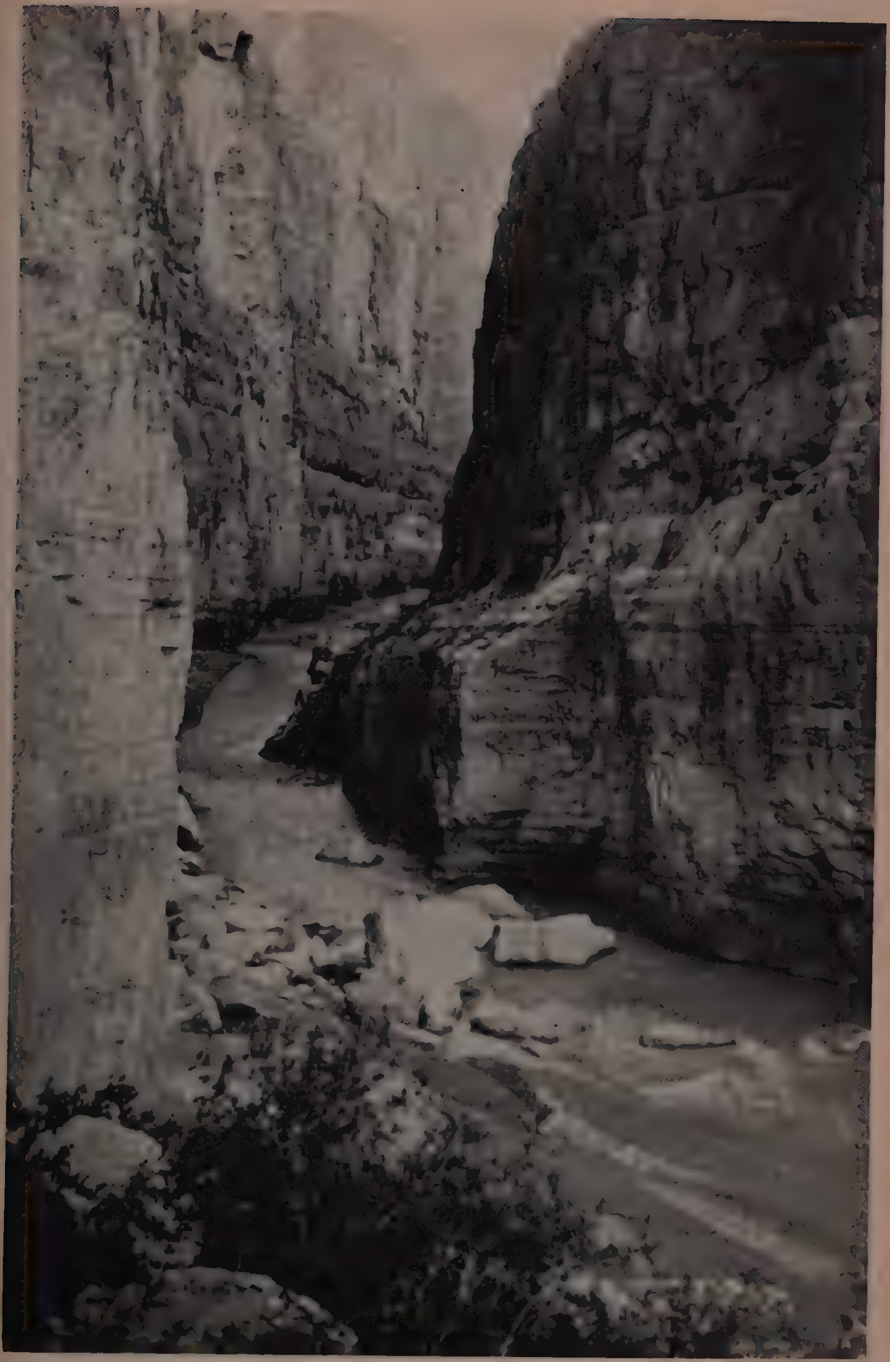
The rest of Santa Elena Canyon was very beautiful and less difficult, and we emerged into the sunshine about noon. The Park Superintendent was very anxious to know when we had completed our passage through Santa Elena Canyon, so we left word with a ranger whom we encountered at the campground just below the canyon. For the next three days the river wound through desert country, with mountains in the distance on both sides. Somehow we seldom thought about Mexico as always being on the right bank, and we camped and lunched on whichever side offered the best possibilities.

We stopped at the Mexican village of Santa Elena, with a population of about 200, which has almost no contact with the outside world. Again we had language difficulties, but with a few Spanish words remembered from college days, with gestures and with pictures drawn in the sand we managed to communicate. School was being held outdoors and the children were very curious about us. The villagers pump water from the river to irrigate a cotton patch, but otherwise it was hard to see how they made a living.

After this we saw no one for several days. Once a flock of buzzards watched us hopefully as we went by. Mariscal Canyon is at the very bottom of the Big Bend and is possibly more lovely than Santa Elena. The water is swift, and at one point it looked as if the canyon was blocked by another slide, but there was a way through. On the second day below Mariscal we came to the hot springs. One of these formed a natural bathtub and privacy was provided by a dense growth of reeds. This was very welcome, for the river was too cold and muddy for bathing. The water is a pleasant 108° and flows about ten gallons a minute. It is excellent to drink and has no noticeable mineral taste.

The next day we came to a new campground which the Park is building opposite the Mexican village of Boquillas. Here we left word to have our car at Stillwell Crossing two days later. Boquillas Canyon is wider than the other two, and presents no difficulties. Our last camp was in the canyon, where it was warm enough to sit by the campfire until nine o'clock, singing and reading poetry aloud.

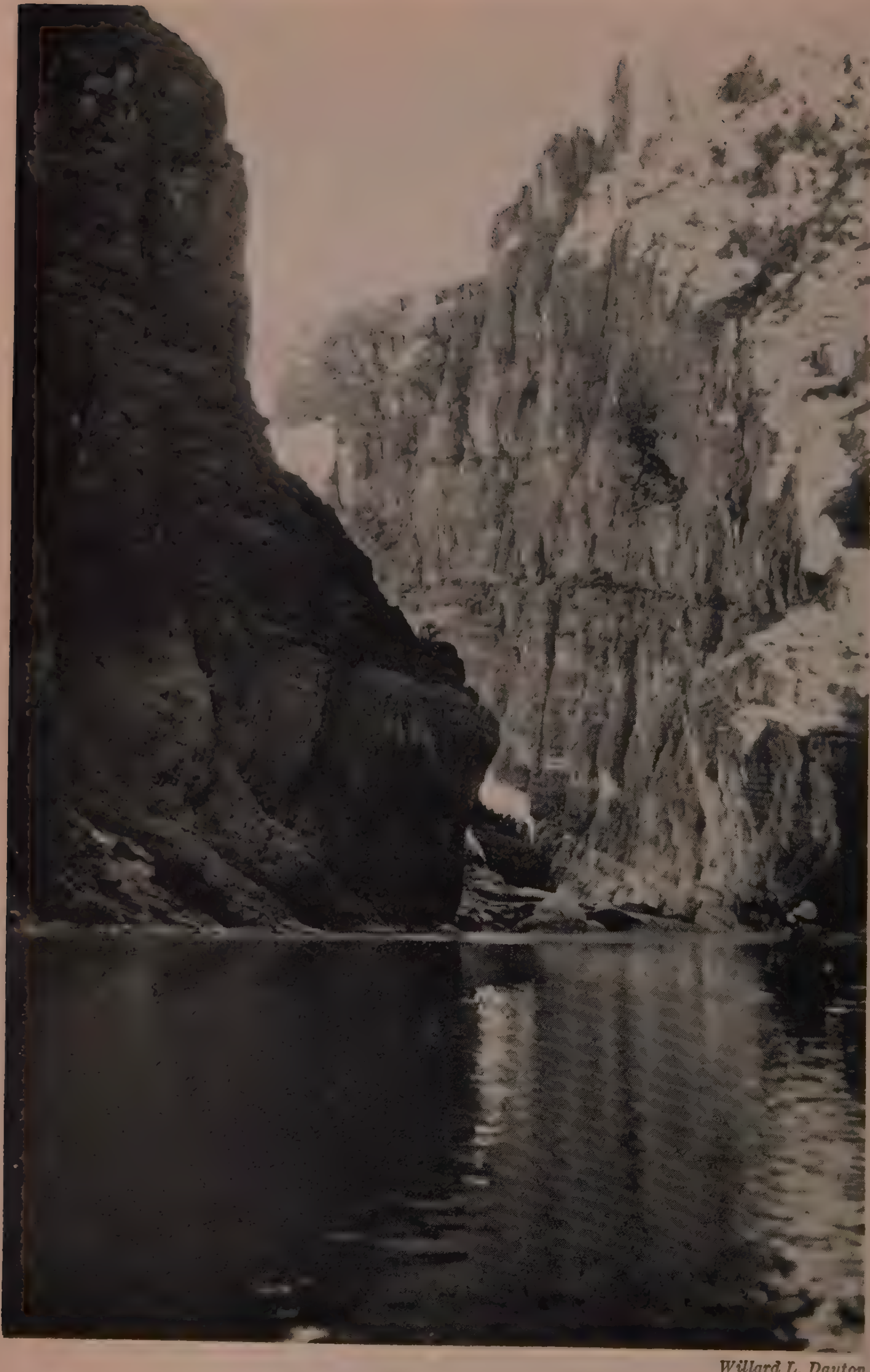
We ended the river trip at Stillwell Crossing after eight and one-half days of travel. The river looked inviting below, and we should have liked to go on. We found our car at the ranch-house



Willard L. Dayton

SANTA ELENA CANYON

View up River from Rock Slide



Willard L. Dayton

MARISCAL CANYON

of the Adams Ranch, about a quarter-mile from the crossing. The Adams Ranch is a working ranch of 32,000 acres, and Mr. and Mrs. Ulice Adams are delightful people. It was the deer-hunting season and they had quite a few guests, so we got to know some real Texans. It was a wonderful way to end the trip.

Looking back, we feel that it was probably our finest canoe trip. We think others would like it too. The rock slide in Santa Elena Canyon could be avoided by putting in at the campground below the canyon. This would mean missing a beautiful part of the river, but it would avoid a very hard portage.

* * *

It was a quiet weekend on the banks of the Swift Diamond Stream in the Dartmouth College Grant. Lionel Lambert of Sherbrooke had volunteered to feed and water the horses at a "bach camp" on Edmund Rouleau's logging job, while his campmates went home for the weekend.

After stoking the camp stove that cold Saturday afternoon, Lionel decided to have a nap, while the early-winter dusk and chill settled upon the Diamond Country. Lionel had built himself a brisk fire, soon the camp was too hot for comfort, so he lit the gas lantern, opened the door to let the shack cool off, and had another doze.

About eight o'clock "a big black man", as Lionel tells the story, walked through the doorway. Lionel woke up fast. His visitor made for the table, grabbed himself an unopened loaf of bread, and departed without even closing the door. His visitor was a black bear, so large it could hardly get through the door.

Lionel bounced out of his bunk, slammed the door shut, and spiked it with a cant dog. "Have my *du pain*", he muttered in his most excited Canadian French, "but you can't have Lionel!"

The door of that logging camp on the Swift Diamond is always locked and bolted these winter evenings, no matter how hot it may get inside.

Bob Monahan

EARLY ROCK CLIMBING IN THE SHAWANGUNKS

by FRITZ H. WIESSNER

THE SHAWANGUNK MOUNTAINS extend from the three-state corner of New Jersey, New York and Pennsylvania for 35 miles in north-northeasterly direction to a point close to the Hudson River about 12 miles south of Kingston, N. Y. The northern third, beginning at Sams Point (2289 feet, the highest elevation of the range), breaks off into long lines of cliffs which face east toward the Walkill Valley. The Walkill River is a tributary of the Hudson.

The beautiful yellowish-white rock of the cliffs is a quartz conglomerate which overlies older sedimentary rock in a layer up to 400 feet thick. The theory is that it originated during the Silurian Period of the Paleozoic Age near the eastern shores of a large inland sea, which then covered much of the eastern part of our continent. From higher lands to the east streams washed into the sea mud, quartz, pebbles, etc., which formed thick layers. In later ages geological forces reformed these deposits into the conglomerate rock. As the softer and older shale deposits under the conglomerate weathered away the conglomerate cracked sharply and left the cliffs.

The actual cracking and splintering away of the hard rock gave sharp holds and ledges which allow the climber to put up routes of the greatest variety on the often vertical or overhanging cliffs. Good piton cracks abound, allowing for good belaying, with the result that very difficult free climbs and many routes with artificial aids (stirrups, etc.) are available and safe.

The Shawangunks not only offer an excellent opportunity to the climber who wants to practice for future goals in the high mountains, but to many of those in the eastern United States who are not able to travel far they constitute a wonderful mountain world of their own. They provide a weekend paradise in which such climbers can pursue their favorite recreation in beautiful and scenic surroundings.

FRITZ WIESSNER, a member of the Club, had acquired a very enviable reputation as a rock climber in his native Germany before emigrating to this country in 1929. He has continued his exploits on this continent, having made the first ascent of Devil's Tower, in Wyoming, and pioneered numberless routes on the cliffs of New England and New York. In addition, he holds a distinguished position in high mountaineering, having made the first ascent of Mt. Waddington, in the Canadian Coast Range, and served as the leader of the second American expedition to K2, in 1938. He is at present engaged in the game of climbing all the 4000-meter (13,200-ft.) peaks of the Alps.

It was in 1935 that the first rock climbers visited the region. On a late spring day of that year several friends and I were climbing on Breakneck Ridge opposite Storm King on the Hudson River. A thunderstorm had made the air crystal clear, and looking northward toward the Catskills our eyes could distinguish in the distant hills the sharp breaks and steep flanks of sizable cliffs. The following weekend we were off exploring. We drove to Walden, N. Y., and then northeast on country roads not far from the line of cliffs, which there are not more than 50 feet high. When we had passed Tilton Lake we soon came under the very impressive great white Millbrook cliff. Eagerly we stopped and bushwhacked up through the 500-foot-high forest belt to the large boulder slope under the cliff. From there we had our first close view of it. Although the cliff is three-quarters of a mile long, the possibilities for routes which would lead through the many overhangs near the top seemed to be few. As we climbed higher, however, I could see two immediate possibilities, the most promising about two-fifths of the distance from the southern end of the cliff and the other closer to the middle. A terrace divides the cliffs. The lower part is approximately 100 feet high, slabby and uninteresting. The upper 200-feet-high part, however, gleams in white, clean rock with many bulges and protruding roofs. To study the whole cliff more closely, we entered upon the terrace at its northern end and traversed along it to the route which I had selected from below as the first choice. It offered 190 vertical feet of enjoyable, interesting climbing, grade 4 to 5. This route we have called "Old Route" (1) on Millbrook cliff.[1]

From the top an extensive view rewarded us further, the Catskills to the northwest, the Hudson Valley to the east, and the Hudson Highlands to the south. Directly north of us, one and one-half miles distant, on top of small cliffs in the extensive forests of the Shawangunk plateau, stood the attractive Lake Minnewaska Hotel, where we often stayed later on. A narrow trail leads to it from the top of Millbrook cliff. Also from our vantage point we had a good view of the long line of cliffs toward Sky Top at Lake Mohonk, where more good climbing was in the offing. Above us circled a group of large turkey vultures and along the cliff a pair of duck hawks, whose nest I had noticed earlier to the left of our route, were exhibiting their highest-speed hunting and flying artistry. One of the great north-south flyways leads along the Shawangunk cliffs and on many fall days we observed there most varieties of our North American hawks soaring along on their way south.

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[1] Descriptions of the routes thus supplied with numbers in parentheses are given at the end of this article.

After an enjoyable hour we walked along the top on traces of a fire trail to the southern, low end of the cliff and descended through a chimney and across a slab to the beginning of the great ledge. There we traversed back, passing by our just completed route, to the northern end and explored further possibilities for other routes up through the great cliff. The day remains in my memory as one of the most pleasant surprises in the early period of our search for new climbs in the vicinity of New York. We had found and opened the most extensive and probably best rock-climbing region in the whole eastern United States. Miles of exciting cliffs were to be explored, with the promise of wonderful new routes in a lovely picturesque countryside.

The following weekend, by this time a larger group, we drove via New Paltz and Gardiner on Route 44 to the gap in the cliffs called the Trapps, to the north-northeast of Millbrook cliff. From there we walked under the high Trapp cliffs to Lake Mohonk, 50 minutes distant. We marveled at the beautiful clear lake and the great hotel which is built beside it and owned by the Smiley family. (Later on, we often made our headquarters there when visiting the region.) We continued to the highest cliffs above the lake and directly under Sky Top Mountain (1500 feet in elevation), on which stands a memorial tower to Albert K. Smiley, who founded the Lake Mohonk Hotel in 1865. The first route which I selected was through the middle of the massive rock pillar which protrudes from the cliff directly west under Sky Top tower. The pillar is split off from the main massif by a big gully, through which the Crevice Trail leads over ladders to the Memorial Tower. The climbing route follows a system of cracks over the yellow, somewhat overhanging west face of the 100-foot-high pillar. A few feet below the top a piece of rock protrudes from the last overhang and from this the route was named the "Gargoyle" (2). Again it had been a very happy day for us, ending with a swim in the beautiful lake and the pleasant walk back to the Trapps.

In these early days of our Shawangunk visits, rock climbers in the New York Chapter of the A.M.C. were a small group and we scheduled our activities over a wide area, from the Hudson Highlands and the Connecticut trap rocks to the White Mountains and the Adirondacks. But soon the Shawangunks became our favorite region. Usually we were six to eight in the party. Howard Carlson, Lawrence Coveney, Beckett Howorth, Elizabeth Knowlton, Lorens Logan, David and Maria Millar, John and Peggy Navas, Percy Olton, Mary and Walter Spofford, Roger Wolcott and Elizabeth Woolsey were the standbys of the

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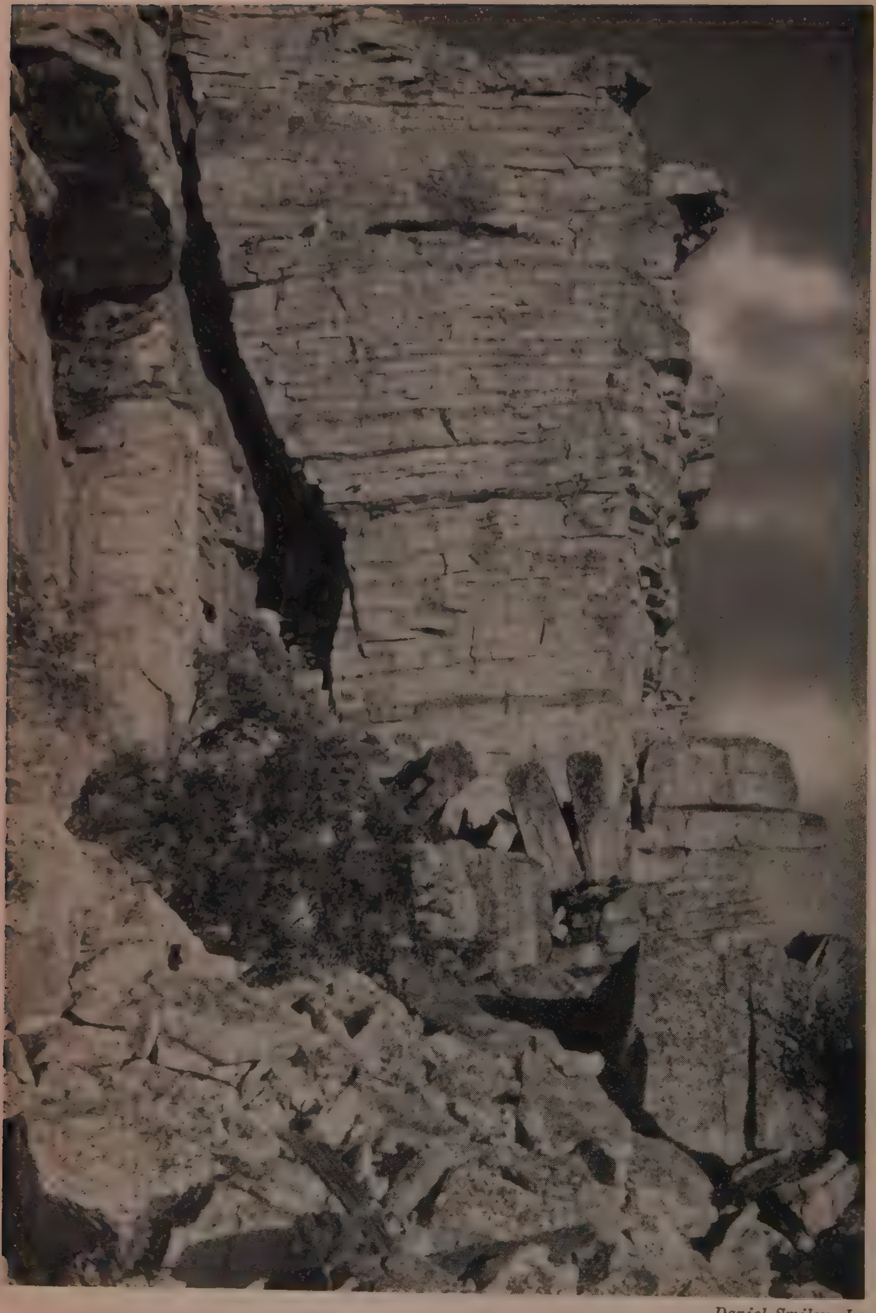
SKY TOP CLIFF AT LAKE MOHONK



Daniel Smiley, Jr.

THE CREVICE ON SKY TOP CLIFF

At upper left, the Overhanging Overhang

group and my seconds on the Shawangunk climbs. The same season I put up another route on the Milbrook cliff, approximately 250 feet to the north of the Old Route, and as it passed very close to the duck hawk's nest it was christened the "Falcon" route.

In 1940 I met Hans Kraus in New York and as both of us were mountain men we quickly became close friends. Since leaving his native Austria, Hans had simply starved for some rock climbing and was overjoyed to hear that we had a group of regular weekend rock climbers in New York City. Of course, he joined our group immediately and became one of the most enthusiastic members. During that year I led, seconded by Hans, the first ascent of the "Overhanging Overhang", grade 5, which has become one of the favorite climbs on Sky Top. It passes approximately 15 feet to the left of the Gargoyle route through the overhanging, yellowish rock of the great pillar. A few weeks later I made the first ascent of the "Gray Face" (3), another great favorite of today, with Beckett Howorth.

Through 1940 I had led all the routes but now Hans joined in the further development. In 1941 he led the first ascents of "Southern Pillar", "Northern Pillar" and "Easy Overhang" on the High Trapps. These cliffs lie to the north-northeast of the notch through which Route 44 leads north from Gardiner. They are up to 220 feet high and are somewhat different in character from the Millbrook and Sky Top Cliffs. They have more ledges and are not quite as free from vegetation as the former, but offer excellent climbing; in fact, today they have by far the largest number of routes. They are most easily accessible from the notch on Route 44 by following the Undercliff Road, which was built by the Smiley family for horseback riding, walking and fire protection. In some places the cliffs start directly from this road. Also, the general meeting-place for climbers is there, 750 feet from the viewpoint parking space on Route 44, just below the notch, at a place called the "Ueberfall". As there is no easy way down from the top of the cliffs, one usually walks back after the climb on a trail along the top to a point above the Ueberfall from which climbing down to the road is comparatively easy. The name Ueberfall is derived from the method used in the descent of letting oneself, with outstretched arms, fall across the four-foot gap between the massif and a huge block above the road.

Three of the other favorite routes on this cliff are the "Fritz-Hans" (4) or "Horseman" route, the "Froghead" and—most beautiful and exciting on the High Trapps—the "High Exposure" (6). At one time, when the Fritz-Hans route was being repeated, a horseback rider came along. He looked up at the climbers and all he said was, "Is this the way to Minnewaska?" and, although obviously much puzzled about the men hanging on the cliff directly above him, he rode on with a bland air. The "Froghead" route, 720 feet farther along on the Undercliff road, begins just to the right of the "Baby" and "Easy Overhang". These routes are at and beyond the point where the cliffs begin to get higher and where the upper part is overhanging and composed of very yellow rock. To the right of the Easy Overhang begins a grayish face with a few trees; about 50 feet over on this face starts the Froghead. The High Exposure, first led by Hans and seconded by me, is 4250 feet from the Ueberfall along the Undercliff Road toward Sky Top. It lies on a protruding, very prominent pillar-like corner of the cliff and is the most spectacular-looking and exposed free climb on the Trapps.

To the west of the notch on Route 44 the Trapp cliffs are at first between 100 and 150 feet high. Farther on they increase to heights of 200 feet but begin to carry much vegetation on most sections. Outstanding routes on the first part of these cliffs, first led by Wiessner, are the "Layback", only about 200 feet from the notch, a 4 to 5, then the "Yellow Ridge" 100 feet farther on, an upper 5 climb, and the "Gelse", a 4 to 5. Then follow routes of lesser importance on the higher cliffs. Still farther west, where the cliff is cleaner, is a fine route called the "White Pillar", a 5 first done by Wiessner and Maria Millar. The White Pillar can be seen clearly from Route 44 at Emils Tavern, whence it lies due north and can be reached in about 20 minutes of steep bushwhacking. Still another portion of the Trapps, near their western end, has some fine routes developed by Hans Kraus. These are the "Susi" route, a 5, the "Wasp Ridge" and the "Adolf" route, both 4. Seen from Route 44 at Schlueters Inn the high cliff due north shows a prominent sharp and steep ridge, the Wasp Ridge. The Susi route is over the face to the right of it and the Adolf route on the face to the left.

During the war years interest in rock climbing increased further, sparked by the formation of our mountain regiment in Colorado. As many as fifteen to twenty-five climbers were then coming on our New York A.M.C. rock climbs to the Shawangunks. Many additional new routes were made during these years by Kraus and Wiessner, and by the end of the war there were about 50. At the Sky Top cliff I may mention the "Easy" route, and farther to the southwest of the Gray Face Hans Kraus developed the "Intermediate". Both are fine routes for beginners. Among harder and more exciting climbs is the "Emory Crack", beginning a little to the left of the first ladder of the Crevice trail. It was named in memory of our good friend and fellow climber, Bob Emory, first of our group who died gallantly in action during the war. He had been second when Hans Kraus led the route, a grade 5. Farther toward the lake, on the second of the great wings protruding from the Sky Top cliff north of the great pillar, Kraus climbed the exciting "Yellow Mohonk Ridge", a grade 5. On the next wing north, Wiessner and Lorens Logan made the delightful "Lake View" Route, a grade 4. On the other end of the Sky Top cliffs, beyond the Intermediate route, where the cliff turns more to the east, is the "Yellow Face", the longest climb in the section and an upper 5 on its overhanging end. It was first done by Wiessner. Back toward the Intermediate route, starting about 25 feet to the left of it with a difficult layback, is the "Minniebelle", first done by Wiessner and William Shockley. This is the most difficult of the free climbs in the section. During these years three of our women climbers, Maria Millar, Betty Woolsey and Mary Cecil, put up new routes, namely the "Maria", a grade 5 *Verschneidung* (open chimney) to the right of the Froghead route, the "Betty", to the left of the Chimney and Easy Overhang routes, and the "Mary", to the right of the Lake View on Sky Top.

In 1946 Hans Kraus developed the first route on which tension climbing was used. This was the "Hardware" route, to the right of the Yellow Face on the southern end of the Sky Top cliffs. He followed up with a number of stirrup routes, prominent and hardest among them the "Never Again" (7) on the Millbrook cliff. Another stirrup route of note is the "Foops" (8) on Sky Top, done much later by one of the younger climbers, Jim McCarthy.

Toward the end of the forties and through the fifties the Shawangunks attracted ever-increasing numbers of climbers. Aside from the Appalachian Mountain Club outings, on which sometimes as many as sixty climbers were registered, there were visits by other clubs, such as the Dartmouth, Harvard, Yale, Princeton and R.P.I. Mountaineering Clubs, and even by climbing clubs from as far away as Washington, D. C., and by the Toronto and Montreal sections of the Alpine Club of Canada. In addition to the routes first done by Wiessner and Kraus, many others of all types and grades were made. A large group of brilliant young climbers had come up and they shared heavily in this later development. Many names of this younger generation and their deeds merit mentioning, but this is beyond the scope of my article and I leave this summing up for one of our younger climbers, to cover at another time.

On a good weekend there are now sometimes more than 200 people climbing on the various Shawangunk cliffs. This has brought with it some problems to the Smiley family, who operate the hotel on Lake Monhonk and own the largest part of the cliffs. Their liability insurance was raised and it was suggested by their lawyers that they forbid climbing. They had always been good friends to us and interested in the climbing activities ever since I first visited them. They did not want to close the area to us. The climbing record had been almost perfect; in all the years only one fatal accident had occurred, and the various groups of climbers had respected the property. In late years there have been a few cases in which the guest privileges were misused by a few, apparently unattached climbers, who have been guilty of loud and ungentlemanly behavior, littering, etc. To handle the situation for the benefit of the climbers, and to contribute a small share to the increased liability-insurance rate, a registration system was worked out between the Smiley interests and a widely representative interclub group. The climbers had formed this under the leadership of the New York Chapter of the A.M.C. Under this system only climbers who have been approved by the interclub group, and their guests, are allowed to climb on the property. With this permission, which is open to anyone, even unattached climbers in good standing, a season button is issued at a small charge, which will help defray some of the insurance expenses of the hotel company.[2]

It is rare in our days of over-exploitation of the land to find, near a large city, country which is still unspoiled by man and as beautiful as when it was created. Greatest gratitude is due to the Smiley families at Lake Mohonk and Lake Minnewaska who, by great sacrifices, have protected and kept this beautiful land as their grandfathers found it one hundred years ago.

Route Descriptions

(1) Old Route at Millbrook. Beginning at the terrace with an overhanging piece of 20 feet, grade 5, a little ledge is reached. Here a vertical crack with good handholds leads to a stand on a piton. A short traverse to the left follows to a V-shaped *Verschneidung,* which is climbed to an overhang (piton); here a short traverse to the right until one can climb up to a tree. From there, first keeping left, then straight through a V, to the densely wooded top.

(2) The Gargoyle starts over a V-shaped *Verschneidung* to the top of a large block in front of the pillar. From there over a somewhat overhanging piece into a short chimney (piton at entrance). Through the chimney to a good stand with piton belay and directly up to the Gargoyle (piton) and over it to the top. It is a short but very startling, almost vertical route of degree 4 to 5.

(3) The Gray Face leads up 200 feet to the south of the Gargoyle over the highest gray section of the cliff where it leans somewhat back and supports a few trees. Through the middle of the gray section runs a line of fissures and cracks, which end under a small yellowish roof. The route starts somewhat to the right of the middle of this face, near its lowest point. Fine cracks with piton belay give sufficient hand- and footholds for the first 30 feet. Then, a little above

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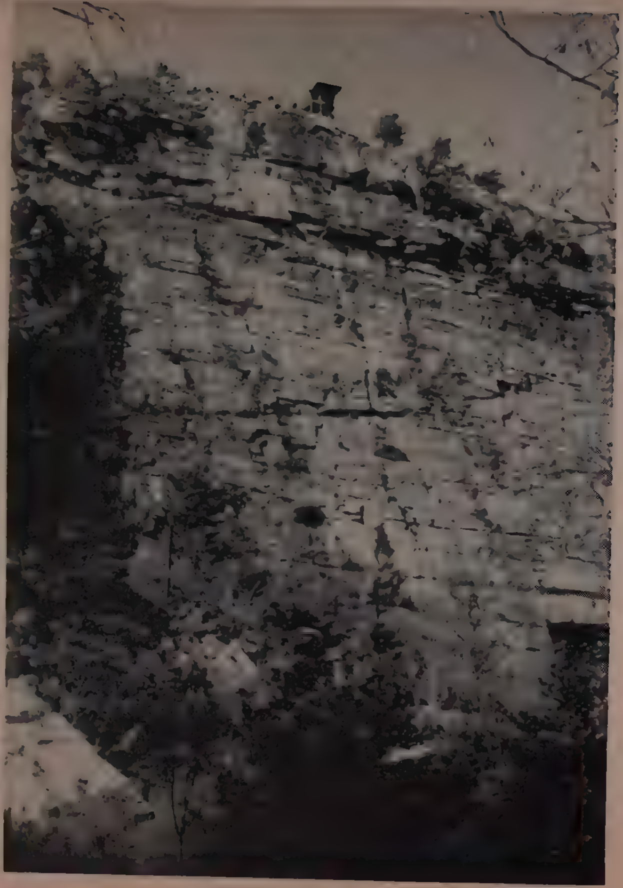
[2] For details of this arrangement, as applicable to the 1960 season, see below under Various Notes, Rock Climbing.—Ed.

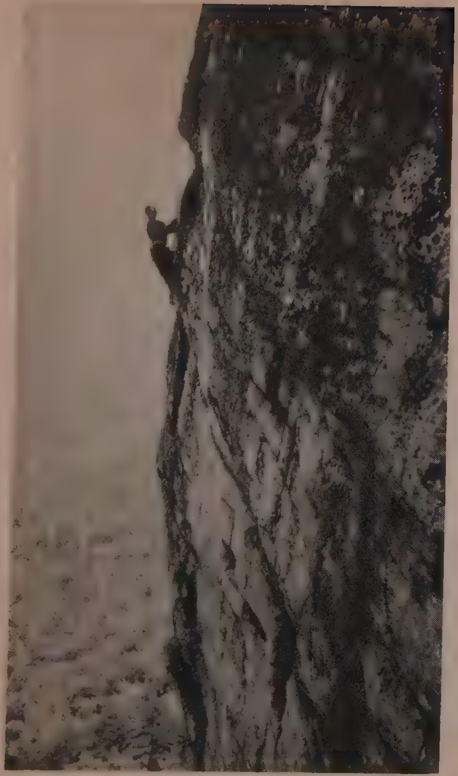


Fred Lazarus

THE GRAY FACE

Fred Lazarus

THE GARGOYLE



Hans Kraus

THE HIGH EXPOSURE ROUTE

Fred Lazarus

Fred Lazarus

DOUG KERR ON SHOCKLEY'S CEILING

a piton, the crack runs out and a short hand-traverse leads to the left into the main system of cracks. A tree a little higher gives a good stance and belay to bring up the second. Following the crack, now wider with good holds, one reaches another stance with piton below a slightly overhanging piece under the broken-out roof (piton). Over this piece up to the roof and a few feet to the left, where one can work out from under it into another system of cracks which lead more easily to the top.

(4) The Fritz-Hans route begins directly on the Undercliff Road approximately 680 feet from the Viewpoint parking space. It starts over a short slab to the foot of a *Verschneidung,* which is climbed to its end under a roof (piton). By traversing first left, then upward to the right, one circumvents the roof and gains a fine crack, which is followed to the top. The route is 100 feet high, looks very difficult from below, but with the many good small holds it rates only a 4 to 5.

(5) The Froghead route leads up from a block beginning with a little overhang (piton) and follows a fine hand-crack for 12 feet (piton). There a 10-foot traverse to the left and up and back in the crack system, which is followed to a ledge (piton). On the ledge to the right to a tree, thence upward to the left to another tree which grows out of the cliff. From there straight up (several pitons for belay) to and over a yellow overhang on a big ledge, whence an easy *Verschneidung* leads to the top. From the overhang there protrudes a small rock which, seen from below, resembles the under portion of a frog's head.

(6) The High Exposure route rates an upper 5. The lower part leads up to the left of the pillar below the high corner following a long *Verschneidung* and on to a wide ledge on the upper part of the cliff. The high corner above the ledge begins with a large overhang. From the ledge one climbs over a short face directly under this overhang and up to the right to a small ledge. Here good stance and a belay piton. The very exposed and most interesting part of the route now begins, with climbing on the 90-degree face: first a few feet straight up, then up to the left on about inch-wide sharp little horizontal holds to the corner, which is reached about 25 feet higher (2 pitons in between); thence more easily to the top. The length of the climb is over 200 feet.

(7) The Never Again route starts halfway between the Falcon and corner routes. From a ledge 10 feet up to an overhang, short traverse right into a crack, from here 40 feet over easier rock to a good stance. 10 feet left, close to a *Verschneidung;* there a 10-foot roof is overcome by a stirrup attached to a roof piton, from which another stirrup on the left wall can be reached. Up straight toward a smaller roof and from there over another 6-foot roof. Step to the left to a little corner and follow this corner slightly to the right to the top.

(8) Foops lies 10 feet to the left from the Emory Crack, straight up to a big yellow roof. Over this with stirrups, using the three pitons in the roof and one just above. Then a short stirrup-traverse to the right up to a stance. From there straight up to the top, using several stirrups at the beginning.

MY PETS AT CRAWFORD NOTCH STATE PARK

by DONALD E. MITCHELL

WELL, LADY, YOU'VE JUST INSINUATED that I'm several kinds of a monster to confine these animals, depriving them of their natural food and habitat. I hope that you will visit with me for a few minutes before you leave the park. Shall we sit here on the bench in the shadows? I'm waiting for Mae to have a baby. Mae was brought to me about three years ago by a conservation officer; at that time she was just a little spotted fawn that had been injured by a farmer's mowing machine. Evidently the mother deer had hidden her baby in a hayfield and the mowing machine had been run onto her while she lay in the tall grass. The tendons in her hind leg had been severed, and had she been left on her own she would have been easy prey to any stray dog, fox or bobcat. She has just stood up—over there by that tree, Ma'am—notice she still has a slight limp, but we are quite proud of our surgery. By the time her wounds had healed she had lost all fear of humans and we could not safely release her, as she would have fallen victim to the first hunter or wandered into a road in front of a car—in short, she had lost her ability to survive on her own. Now I'm waiting here until her babies come; she may have from one to three fawn. Once these fawn are dropped I'll carry them into the pen over there; I call that the maternity pen. You see, this yard where she is now is shared by eight other deer and we have a stream running through it and a little pool of water there. Mae doesn't realize that the fawn's short legs won't carry it across the stream as hers will, and at the first crossing the fawn might bog down and drown. This often happens to fawn in their natural surroundings and I suspect that there are as many week-old fawn lost in this manner as from predators. My maternity pen, of course, is a dry pen, the mother deer being served water in a trough.

Why didn't I put the doe in the maternity pen several days ago and not have to wait out here tonight? That's a good question. In the first place, I don't begrudge any time which I devote to these animals; the second reason is, I feared that separating the doe from the herd before she gave birth to her fawn might excite her and actually cause her to injure herself while attempting to get back to the others. I couldn't explain to her that she was being isolated for her own good. When I carry her babies to the maternity pen she will follow me there and be contented with

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DONALD E. MITCHELL is Manager of the Crawford Notch State Park, where one of his major concerns is the wildlife exhibit of native wild animals and birds in a most attractive setting. In the winter they all go south—Don Mitchell to Florida and the animals to the Bear Brook State Park.

her young. You have probably read that if a person handles a fawn the mother will usually allow it to starve rather than brave the human scent; that is correct in the wild state, but this deer has learned to associate humans with good deeds. Isn't it a pitiful example we humans have set when an animal fears us so much that she will allow her young to perish rather than come within our reach? Yet she has been known to stay with her young during a forest fire and burn to death rather than desert them. When I bring these babies to the maternity pen I'll set them down at different points, probably about fifty feet apart. These babies only a few minutes old have an hereditary instinct to survive. Placed side by side, one of them would get up and stagger to some other place in the yard, perhaps less than the fifty feet I mentioned, but far enough away so that a predator might locate and destroy only one instead of both. Their protective coloring and their ability to remain motionless are their only protection at this age. During the next few days, if I want to examine one of the fawn, I'll walk directly to it, step over it, then turn and pick it up; but should my eyes meet those of the baby and it realizes that it has been seen, it will jump up and bound away.

I did mention that I was separating Mae from the rest of the herd; I did not mean to imply that the fawn would be injured by any of the others. The deer family get along very well together on the whole, and should a fawn be injured by any of the others it would be purely accidental. You would delight to watch a buck creep up to a new-born fawn a step at a time with his neck outstretched, nuzzle it all over as if to see that it is all right and normal, then turn away with a snort as much as to say, "Huh! Such a tiny baby!" I seldom hasten to take the fawn from the pen until after the buck has made that preliminary examination; it seems to me that it is his right!

All our other animals on display have equally interesting backgrounds. Did you notice the single red fox in the pen just around that bend in the path? He is one of a pair of kits brought in this spring. They were picked up on the highway when they weighed less than a pound apiece. We kept them in a pen near our cottage, where it was easy to give them several feedings a day of warm milk, puppy biscuits and horsemeat. They grew and developed rapidly, with one showing more intelligence and friendliness than the other. This friendly one I nicknamed "Red", and after the public left the park at night I would take him out for a stroll, using a collar and leash as on any puppy. At first he showed his dislike of the leash by fighting it, but eventually came to tolerate the restraint. I made our hikes as near a regular nightly procedure as possible and I'm sure that Red looked forward to them as much as I. Most of the time he chose the path we were to take and he would amuse himself by turning over small rocks to catch crickets and other insects. He would drop a stick at my feet and when I would stoop to pick it up he would snatch it away and hide it behind a bush or under a stone.

This fox did not at any time have his full freedom; he was on a leash during the period of play, but let me tell you what happened later in the season. When the two foxes were nearly full-grown an attendant was cleaning their cage; the cage door was shut but not fastened; Red darted around the cage, pushed open the door and disappeared in the woods. The attendant came and told me what had occurred. Now I had a decision to make: with our display we have approximately fifty mallard ducks on the pond; these ducks had their hatches of ducklings and there were baby ducks of all ages. I knew that although Red had been a pet, at the same time Nature was tempting him with an easy supply of his natural food, and the ducklings would not be safe with him at large. Our ducks are pets also, and very popular with our visitors. I took my rifle from the wall and went to find Red. I whistled as I walked through the woods, mainly to bolster my courage. Suddenly Red came bounding through the brush with his beautiful plume waving a happy greeting. He had decided that we were out for another hike. Red and I walked through the woods for nearly a mile, during which time he would bound along ahead of me and examine rocks and stumps, then run around me in circles with his tail wagging like mad. Finally he showed signs of becoming tired, since so much exercise as this was unusual. I told him in a clear, firm voice, "O.K., Red, you've had your hike—sit down"; which he did. I picked him up and carried him back to his cage. You know, he seemed pleased to be back with his mate. No, Red isn't with us now. I guess someone thought he wasn't happy caged up and would be better off dead. The autopsy showed that he had eaten a piece of poisoned meat.

I notice that Mae is getting very restless and fidgety; it won't be long before we see some proud parents. Whenever possible I like to pair off my pets and if they raise young and bring them up in captivity I feel that they aren't too unhappy. And of course the young of any species are cuter and more playful than their elders. Over on the opposite side of our animal yard you may have noticed the pen with six raccoon. They are now all of nearly the same size, but in fact two are the parents, with their four babies. These kits were born in captivity this season and the mother raised them with no loss—something she could hardly do in the wild. Within eight weeks she had taught them to beg tidbits from the public; just a pack of little ham actors. You know, I think that they actually think the cage was built to give them privacy and keep the public out!

Dick Smith

FEEDING THE DUCKS AND SWANS AT CRAWFORD NOTCH STATE PARK

Dick Smith

YEARLING WHITETAIL

Dick Smith

WOODCHUCK

You asked if it isn't a bit mercenary for the State to operate coin-feeders in the animal yard. I don't think so. Here is my reason for requesting coin-feeders: I can fill them with the food that is beneficial to the animals. Most visitors want to feed the animals something. They would probably continue to feed them even if I should put up signs to the contrary. Food such as most people carry to feed my pets consists mainly of salty foods, such as potato chips and popcorn, or sweets, such as sugared doughnuts, candy and cookies. In reasonable quantities this would be permissible, but we have visitors in fairly large numbers day after day. Another factor: I can determine from the machines roughly the amount that the animals have been fed during the day; then at night, when we feed, I can gauge the portion to be given them. However, if you want to visit the park and bring your own food for the animals, it is allowed. I've stopped only one person from feeding the animals as he chose and that was a youngster of twelve years with a piece of meat tied to a stout cord. The last I saw of him he was attempting to explain to his parents why he was holding onto his posterior with both hands.

Another animal which I enjoy displaying is black bear cubs; these are natural little clowns and enjoy performing to an audience. They are often brought to the park when they weigh only four or five pounds. We start them off exactly as you might a human baby, on a bottle of milk with a little Karo syrup in it, then soft foods such as eggs and oatmeal. I'm sure that many of our friends have been startled to see us heat a bottle of milk and pass it into a crib from which extended two little furry paws. However cute these little cubs may be the first few months after birth, I distrust them more than any other animals with which we work. They soon show their Jekyll-Hyde disposition and if you fail to be cautious they may at some later date crush the life from your body. Our pen facilities here at Crawford Notch are not adequate to display fully grown bear and until such time as we can have a pen suitable to protect the public and the attendants from being injured we will display only cubs. After keeping a cub for the second season we give it to some institution with suitable cage facilities. Three years ago a wild animal exhibit was started in New York State with a gift of some native animal from each state in the Union. The animal we contributed was a six-months-old bear cub named "Miss Smokey". Her cage has a plaque proclaiming that she was a gift from the State of New Hampshire.

I suspect that we are becoming a release point for unwanted pets. Last season a small bright-eyed woodchuck appeared at the restaurant door, sat up and announced in no uncertain terms that he was hungry. I'm certain that the parents of some little girl had to choose between Wee Willey, as we called him, and a vegetable patch. How am I certain that he was an unwanted pet? Well, mother woodchucks just don't adorn their babies with carefully tied bow ribbons. Wee Willey quickly became the friend of all the help on our area. We found him to be house broken and in all respects the perfect little gentleman. He had a distrust of strangers, especially loud little boys who might have purchased tomahawks or bows and arrows at our souvenir shops. When set upon by these little Indians he was capable of protecting himself, as the number of bandaids purchased that season could testify. However, the wounds he inflicted were minor and when we dispensed an ice-cream cone along with the bandaid it would allay any tears and we had no complaints. Wee Willey had the full freedom of the park. He obtained his salad from our lawn, his vittles from our kitchen department, his desserts from the hands of his friends and his publicity from the many pictures for which he posed during the season. What happened to Willey? He met a pedestrian's fate when crossing the road late that same season.

I mentioned our waterfowl a few minutes ago; along with the ducks, geese and swan we have a pair of horned owls. One has been with the display several years. Mr. Blink, as we call him, has adapted himself to park life and sits there in his cage looking wiser than some of the visitors. I have gradually changed his diet until he now subsists on ground horsemeat rather than field mice and squirrels. His only outward sign of displeasure with this civilized diet is an occasional burp. Last season a young mate was brought to him. She was appropriately named "Stellicomb", the Indian name for Evil One, since her disposition is far from sunny. This season I hope that Mr. Blink and Stellicomb will produce a hatch of baby horned owls. I tried suggesting it last season by putting nesting material in their cage, but Stellicomb didn't seem to give a "hoot".

Ma'am, I think that I have work to do—hear that sharp little bleat? You say that you're bringing some friends here next season? . . . Oh, fine!

THE VALDEZ AND KLUTINA GLACIERS, ALASKA

by LAWRENCE E. NIELSEN

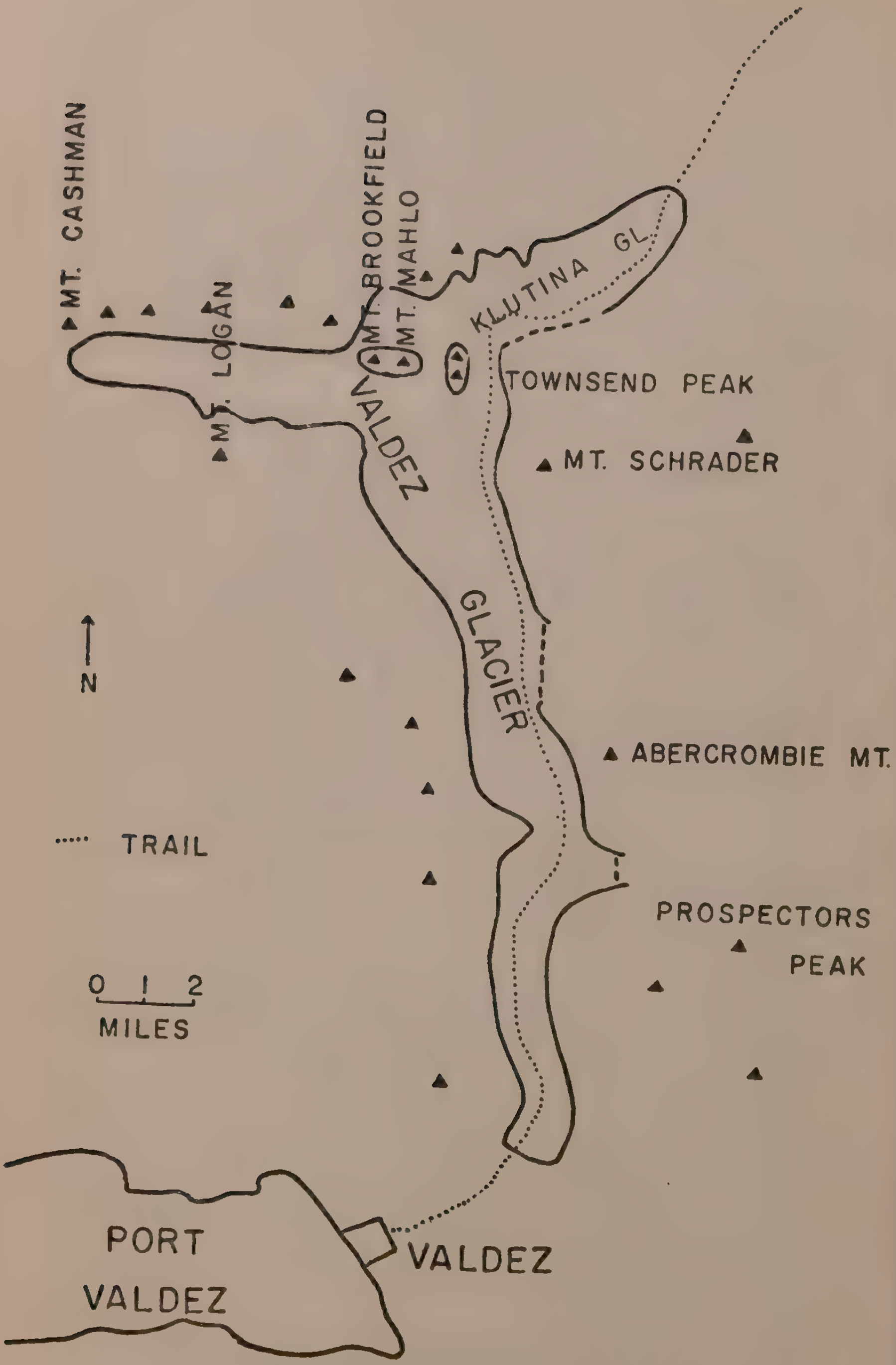
IN 1898 THE VALDEZ AND KLUTINA GLACIERS were traversed by thousands of men on their way to the interior of Alaska. These men were part of the great gold rush of 1898 to the Klondike and Alaska. Of the more than four thousand prospectors who crossed the more than twenty miles of ice with great expectations, nearly all returned the same year or in 1899. A few struck it rich, but most of the prospectors returned financially destitute, and many suffered from starvation, frostbite and scurvy.

It took the average prospector a month or six weeks to get himself and a year's supply of food and equipment from the town of Valdez to the end of the Klutina Glacier, a distance of about twenty-five miles. This included half a ton of food or more; and unless the prospector was fortunate enough to own a small oil stove, he also had to cut a cord of wood and haul it up the glacier in order to have a fire to cook his food and warm his tent. The Valdez Glacier was broken up into four steep and badly crevassed areas, called benches by the prospectors, and just below the mile-high pass between the Valdez and Klutina Glaciers there was a very steep snow slope a thousand feet high. At the base of these steep sections progress was slow. Winches were often used to pull a hundred pounds or so of equipment up the ice slopes. Tent-towns containing hundreds of people sprang up at the base of the steep slopes. At one time during the spring of 1898 about two thousand five hundred people were scattered along the glacier trail.

Most of the men relayed their equipment a few miles at a time by carrying it on their backs or by dragging sleds. Those with more money used dogs or even horses. Several hundred dogs and several dozen horses were used on the trail. During the heat of the gold rush fever most of these poor animals were worked to death or died from falls into crevasses.

The journey up the glacier was dangerous, difficult and discouraging. The snow was so deep and soft that most traveling had to be done at night. The sun not only turned the snow into slush, but it caused many of the men to suffer from snowblindness and sunburn. There was the ever-present danger from crevasses and avalanches. Dozens of men were buried by avalanches, and hundreds of caches of food and equipment were lost under the snow and ice.

LAWRENCE E. NIELSEN, a member of the Club, has contributed several articles to APPALACHIA on his climbs in Alaska and the northern Cascades.


MT. CASHMAN
MT. LOGAN
MT. LOGAN
MT. BROOKFIELD
MT. MAHLO
MT. MAHLO
KLUTINA GL.
TOWNSEND PEAK
MT. SCHRADER
VALDEZ
GLACIER
N
ABERCROMBIE MT.
TRAIL
PROSPECTORS PEAK
0 1 2
MILES
PORT VALDEZ
VALDEZ

In 1899 Captain Abercrombie's expedition blasted a Government pack trail through Keystone Canyon on the Lowe River. This new route spelled the end of the Valdez Glacier trail. Apparently the last record of anyone making the complete trip over the Valdez and Klutina Glaciers was in 1900.

I had been interested in the old historical route for a number of years, so in 1959 I organized an expedition of which the objectives were to retrace the route of the prospectors and to climb some of the mountains overlooking the Valdez Glacier.

Our party consisted of Charles Warren of the Mountaineering Club of Alaska, Boyd Everett of the Harvard Mountaineering Club, Ralph Marron of the Exeter Mountaineering Club, and Lawrence Nielsen. We all arrived in Valdez by the middle of June and set up housekeeping in a partially completed house belonging to the mayor, Lee Johnson. George Gilson was kind enough to allow us to use part of the back of his store to repack all our food in waterproof plastic bags. On the morning of June 19 our bush pilot, Layton Bennett, landed us, one at a time, near the snow summit between the Valdez and Klutina Glaciers. Layton's Piper Super-Cub, equipped with ski-wheels, was large enough to take in only one man, his food and his equipment. We were doing things the easy way compared to the 1898 prospectors; our equipment was airlifted twenty-five miles from Valdez and deposited at an elevation of five thousand feet. Even then we found it no picnic to lug the equipment back downhill to Valdez, but we certainly were thankful it was not the other way!

Base camp was established at the summit pass where we landed, but by 11.30 p.m. Camp I was set up about four miles west of base camp and four miles east of the extreme upper end of the Valdez Glacier. The next morning we started on up the glacier to climb Mt. Cashman. This peak is nearly the highest in the area, with an estimated elevation of 8200 feet. We left the snow at the col between the Valdez and Tazlina Glaciers and started up the steep loose rock of Mt. Cashman. As there did not seem to be a solid rock on the whole mountain, we were forced to move slowly and very cautiously. Even then someone was constantly starting a rock rolling and bouncing down towards those below. The rock would dislodge other rocks, and soon an avalanche would be set off. A short time later we would see the avalanche pour out on the glacier a thousand or two thousand feet below us. It was evening by the time we reached the summit. We spent the whole night climbing back down; fortunately, we were so far north that we had continuous daylight. Camp was reached the next morning after more than twenty-three and a half hours of roped climbing. After a cup of cocoa and a few crackers, we crawled into the sleeping-bags and remained there twenty hours.

We climbed Mt. Brookfield on June 22. This was an exciting snow climb, mostly in a dense fog. The next day, again in dense fog, we returned to base camp but lost our trail, marked with three-foot alder branches. We left the sleds and packs and followed marked compass courses in various directions for about half a mile, then we would move on and repeat the procedure. After several hours we found camp, but we had been within a hundred yards of it twice before we finally saw it.

June 24 was a beautiful day. Mt. Mahlo was an easy but enjoyable climb just north of base camp. From its summit we could see nearly the full length of both the Valdez and Klutina Glaciers. Far to the west we could see majestic Mt. Einstein (11,552 ft.) through the col at the head of the Valdez Glacier; the mountain brought back many memories of our 1955 and 1957 expeditions to the central Chugach Mountains. All around us were smaller but equally impressive peaks. Across the glacier the vertical glacier-capped black cliffs of Mt. Logan would offer a real challenge to a climbing party. (We had originally named the mountain for William Egan, the first governor of the state of Alaska, but the Board on Geographic Names asked us to submit another name. I proposed the name Mt. Logan for Dr. Logan who died in a crevasse in the Valdez Glacier in 1899 after he had saved the lives of many prospectors the previous winter.) To the east Mt. Schrader and an unnamed peak of about 8200 feet dominated the scene; these are both very rugged peaks.

The same day Boyd and Ralph climbed Townsend Peak. This mountain, which rose seven hundred feet above our camp, was one of the prominent landmarks for the gold-rush prospectors. They often referred to it as one of the Summit Peaks.

By this time I was anxious to see if we could find any relics of the gold-rush days melting out of the ice, so on June 25 we explored the full length of the Klutina Glacier. On the way down we stayed near the center of the glacier and did not find anything. The old maps indicate that the trail of 1898 was rather to the east side of the glacier, so we returned closer to the big medial moraine near the east side. Within half a mile of the terminus we began to find all kinds of relics—a duffle bag, a singletree from a dogsled, snowshoes, pieces of metal, and partly burned sticks of wood! For two miles along the glacier we found hundreds of objects; one of the most interesting was a woman's shoe. (It is estimated that only about thirty women ever traveled the glacier route.) We even found pieces of cordwood, which in 1898 was worth a dollar a pound on the glacier. For some of us these discoveries rank with the greatest experiences of a lifetime. Ralph found a rusty shovel with most of the handle still attached; Boyd picked up a handmade ice-creeper. We found a rotten bacon bag from a store in Portland, Oregon; the print could still be read!

The next day we piled our aluminum toboggan high with food and equipment, abandoned base camp, and started down the Valdez Glacier. A short distance beyond the bottom of the steep snow slope we reached bare ice and had to leave the toboggan. From here on we had to carry everything on our backs in two trips. While we were transferring things from the toboggan Chuck Warren found a loaded pistol cartridge and glass pieces probably from a mug lying on the ice by our feet. All of us then excitedly started looking, too. We found hundreds of relics near by. I realized that we had found the remains of the big tent-town that had once existed at the base of the snow slope which led to the summit pass. In the course of sixty-one years the ice had carried the town a mile or so down the glacier. We found several of the quaint little oil stoves with wicks that some of the prospectors used. For nearly a mile along the glacier there were shovels, shoes, disintegrating tents, a nearly intact horse's skeleton, canteens, sticks of wood, utensils and many other objects. In our wildest dreams we had never expected to find so many reminders of the gold-rush route.

Two days later we set up a camp on the tributary of the Valdez that joins the main stream between Mts. Schrader and Abercrombie. On June 28 we climbed the latter. This is one of the most impressive peaks in the area. Its nearly vertical south and west rock faces rise a mile above the glacier. Its north face is a maze of icefalls and hanging glaciers. The only safe and sure route to the summit required a walk of about eight miles each way. Our route led up the tributary glacier for about four miles (in a white-out), then up to the great summit plateau of the mountain, and then back west to the summit itself, which overlooks the Valdez Glacier. The summit was in bright sunshine, but only the highest peaks appeared above the cloudbank below us. Since it was a warm day, the lower glacier was a nightmare of slush. We staggered into camp fourteen hours after we had left it. We were soaked to the waist from falls into water-filled holes and crevasses. We poured the water from our boots and crawled into the sleeping-bags too tired to cook a hot meal.

The next camp was set up near the lower tributary glacier south of Abercrombie Mountain. Near this camp we found the wreck of Frank Polluck's plane, which crashed on the glacier about 1934. The Pollucks were on their honeymoon when the crash occurred, and as they were not seriously injured they were able to walk out to Valdez.

We climbed Prospectors Peak on July 2. The clouds reached the summit just ahead of us, so we were deprived of the hoped-for view. This peak is one of the mountains seen on the north side of the Camicia Glacier from the town of Valdez. On the way to Prospectors Peak we stopped at the Ramsey-Rutherford Gold Mine, which has been closed since the 1930s. The expensive machinery is rusting away and two of the five stories of the mine building have collapsed under the weight of heavy snows. The cookhouse has also collapsed, but the bunkhouse and assay house are still in fair condition. From about 1912 to 1928 the mine was supplied by trains of packhorses which had to go up the Valdez Glacier about five miles before climbing a mountain to reach the mine. In the 1930s Bob Reeves, one of Alaska's famous bush pilots, supplied the mine by landing on a snowbank with his plane. Probably no one before us had even been to the mine since the present owners last visited it in 1941.

On the way to Valdez we found a few more relics. Most of them may have come from the tent-town below the Fourth Bench, as they are still above the Third Bench. The glacier has carried the relics several miles since 1898. In Valdez we witnessed the July 4, 1959, celebration and saw Mayor Johnson raise the 49-star flag for the first time on the pole in front of the Alaska Communications Building.

Appendix

Origin of Names in the Valdez Glacier Area

Abercrombie Mountain. Named for Captain W. R. Abercrombie, who led an expedition over the Valdez Glacier in 1898 and who led the expedition which built the Government pack trail in 1899. His reports and those of his men tell us most of what we know of the Valdez Glacier route.

Mt. Schrader. Named for Frank C. Schrader, a geologist who crossed the Valdez Glacier as part of Abercrombie's expedition to study the geology of the area.

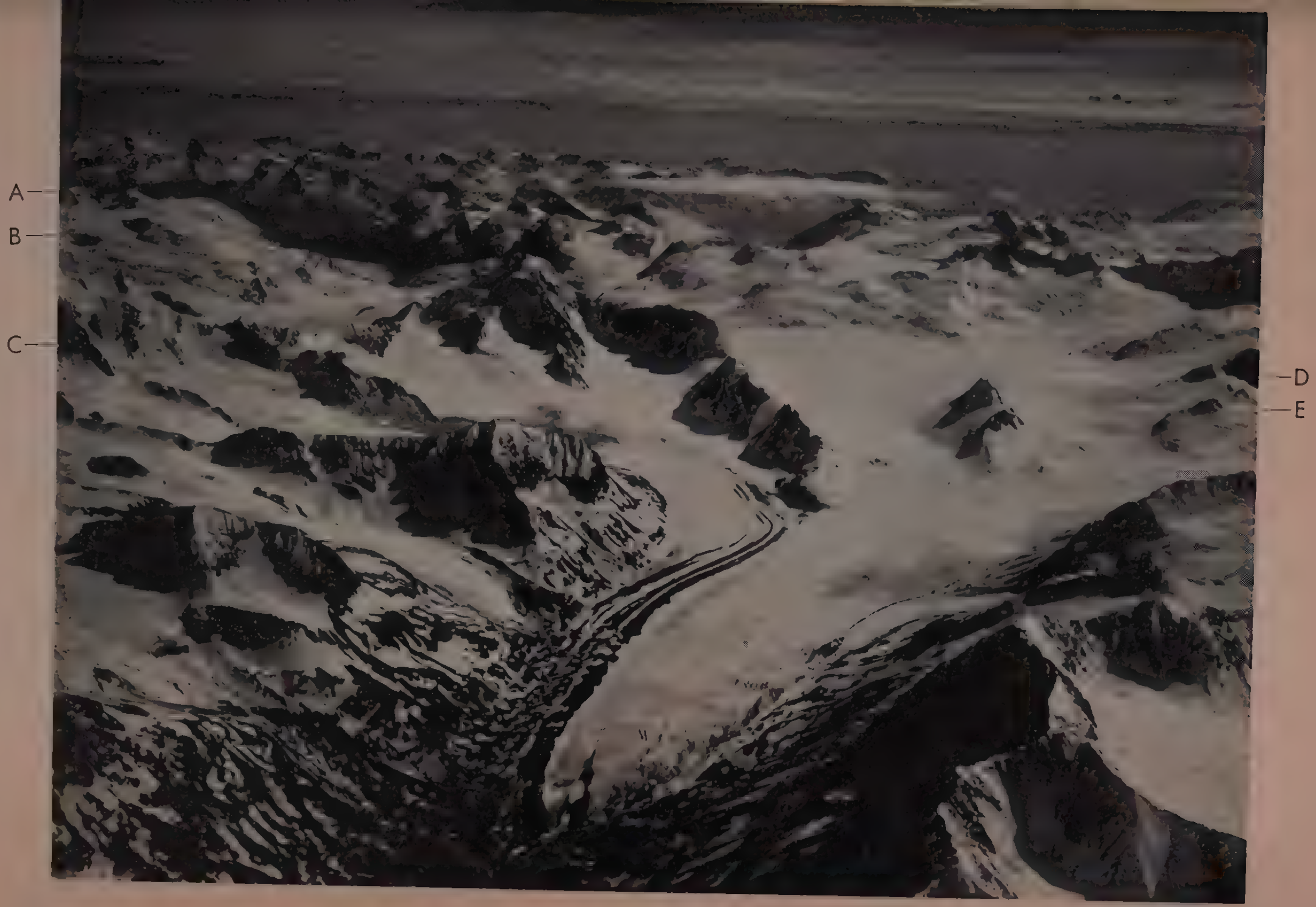
Mt. Mahlo. Named for Emil Mahlo, a topographer with Abercrombie's expedition. He made the first map of the Valdez Glacier. We used his map to tell where the 1898 trail was located.

Mt. Cashman. Named for Edward Cashman, who made a trip from October, 1898, to February, 1899, from Valdez up the Copper River and back to Valdez by way of the Valdez Glacier. The purpose of the journey was to rescue thirteen horses abandoned by part of Abercrombie's expedition. Only one horse lived to get back to Valdez. Cashman has written a very dramatic account of his trip.

Mt. Logan. Named for Dr. Logan, who saved the lives of many prospectors in the interior during the winter of 1898-99. He died on the Valdez Glacier in the spring of 1899. His body was never recovered.

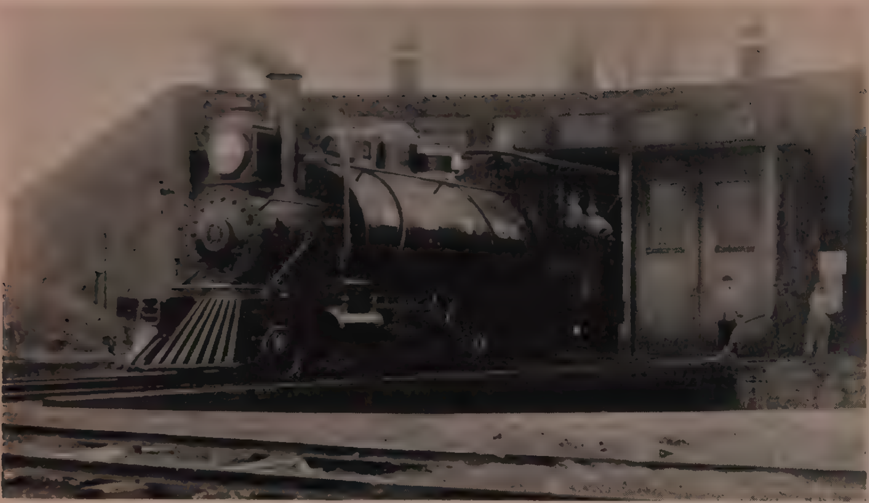
Townsend Peak. Named for Dr. Leroy S. Townsend, who spent the terrible winter of 1898-99 in the interior of Alaska at Copper Center, where he treated many men for scurvy and frostbite. On his return to Valdez over the glacier, in the spring of 1899, his party had to be rescued.

Mt. Brookfield. Named for Lieutenant Brookfield, who accompanied Mr. Schrader on the latter's first trip to the summit of the Valdez glacier in 1898.

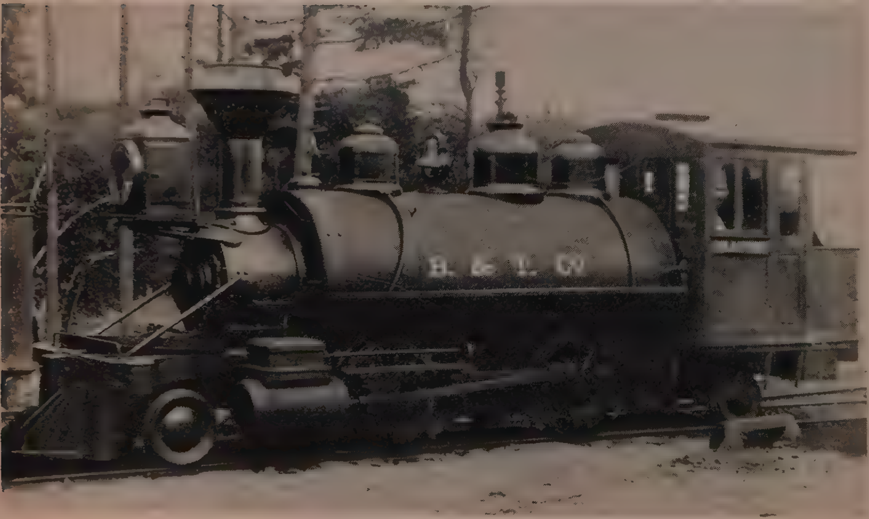


H. Bradford Washburn, Jr.

THE KLUTINA GLACIER



ENGINES OF THE
BLANCHARD & TWITCHELL CO.'S
SUCCESS POND RAILROAD



THE LOGGING RAILROADS OF THE WHITE MOUNTAINS

PART II

by C. FRANCIS BELCHER

THE UPPER AMMONOOSUC R.R.
THE UPPER AMMONOOSUC LUMBER CO. R.R.
(1892-1903)

THE NATURAL-WILDERNESS AMPHITHEATER encircled by the Crescent, Pliny and Pilot Ranges in the New Hampshire towns of Kilkenny, Randolph, Berlin, Milan and Stark, has worn for many a long day an inscrutable cloak against the eyes of the outside world, even though for years it has been the intimate hunting and fishing preserve of those living nearby and a knowing few. Historically, by written and spoken word, this area has built up a legend of isolation and mystery. As long ago as 1820 A. N. Brackett, in the *History of Coös County,* is quoted as describing Kilkenny as follows:

> Kilkenny is bounded northerly by Stratford, and easterly by Paulsburgh [now Milan], Maynesborough [now Berlin] and Durand [now Randolph]. . . . This town now contains very few inhabitants and they are very poor, and for aught that appears to the contrary, they must remain so, as they are actual trespassers on that part of God's heritage which he designed for the residence of bears, wolves, moose and other animals.

A former officer of the Appalachian Mountain Club, W. H. Peek, in an article in APPALACHIA (March 1886, p. 220) reporting on one of the earliest Club exploration trips to this area, supplied further comments to heighten the air of mystery:

> Now, when it is remembered that between the Randolph road or Moose River and Jefferson on the south, and the settlements on Dead River and the Upper Ammonoosuc on the north and northwest, a distance of twenty miles, search may be made in vain for any permanent human habitation, it is not strange that our knowledge of this region should be small. . . .

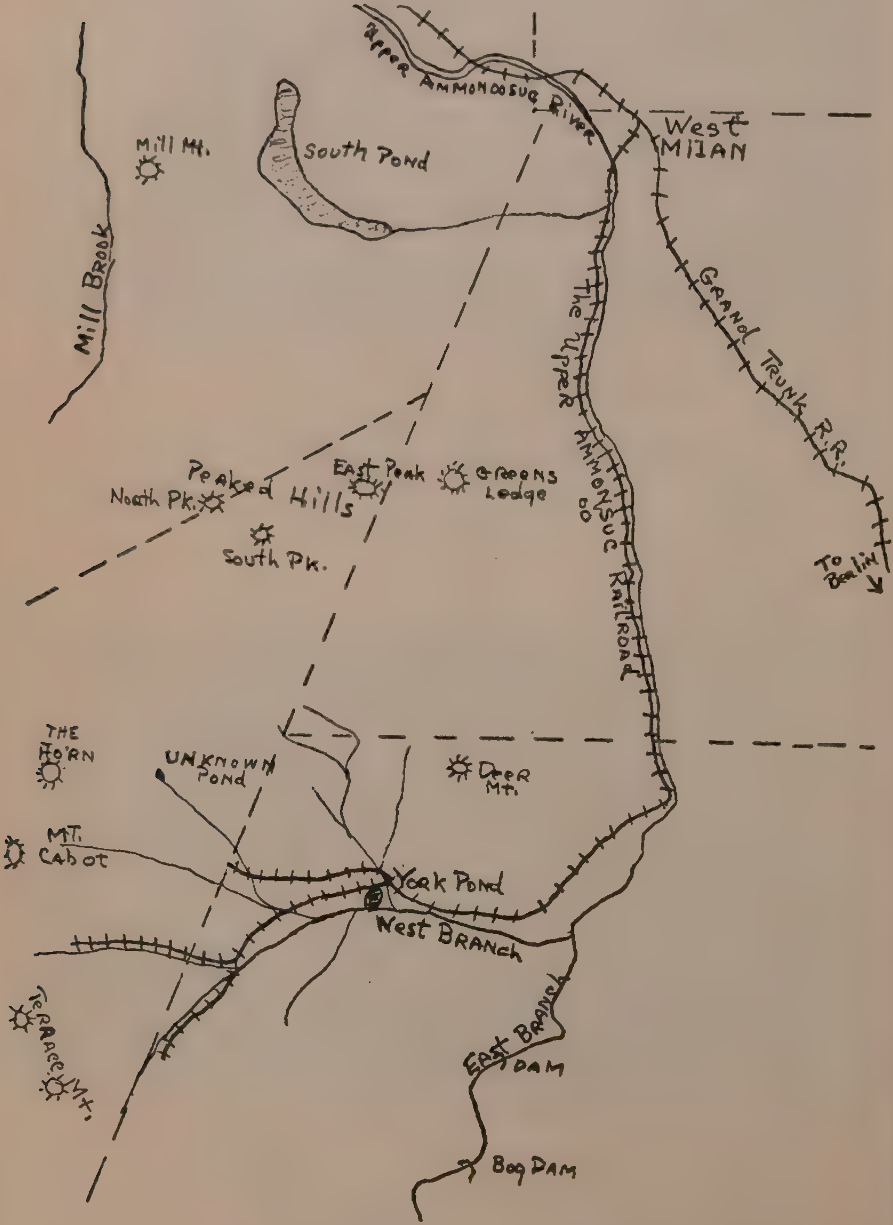
Later, on page 224, he adds:

> Here we saw one felled tree, which must have lain there many years. Before this we had seen no mark of axe since leaving the Pilot Mountain proper at the signal station; but it will probably not be long before the iron horse itself will penetrate these wilds, and carry off the spoils of these hitherto inviolate solitudes.

How true was Mr. Peek's last observation!

Part I of this series appeared in APPALACHIA for December 1959, pp. 516-528.

The Upper Ammonoosuc basin tract of 36,000 acres had three distinct logging divisions, of which only the second, as the center for a logging-railroad operation, will concern us. The first division was the East Branch of this river, which is basically confined to the southwest corner of the present city of Berlin



and the northern third of the town of Randolph. The second, and the one with which we are concerned, was the West Branch region, mostly in the town of Kilkenny with small territorial overlaps in northwest Berlin and southwest Milan. The third was the Mill Brook basin in the town of Stark.

The East Branch was logged, primarily by river drives, over a much more extensive period both before and after the time covered by this article; this accounts for the storage reservoirs formerly at Bog Dam and other waterheads along the stream. (The history of these operations would be a story in itself.) Our concern, the West Branch, lost its pristine spruce to the log trucks of the Upper Ammonoosuc Railroad in a short ten years of intensive cutting. The Mill Brook valley was lumbered by the conventional horse-and-sled method northerly down Mill Brook to the town of Stark. In all three districts the original cuttings were solely for the rich-yielding softwoods.

In the early nineties the already existing Ammonoosuc Lumber Co. had sawmills cutting spruce into lumber at West Milan, Stark and Groveton. In 1893, with Black Dan Emery in charge and Fremont Wright as woods boss for the Haskell and Hobson interests of Boston, this company incorporated the Upper Ammonoosuc Railroad and started laying the rails of their standard-gauge lumber line southerly up the west bank of the river from the Grand Trunk depot in West Milan. The late Jim Keenan, for whom an upper tributary of this river was later to be named, once described their destination as the finest stands of black spruce that he had personally cruised in sixty years as a woods boss not only in this area but also in the Wild River and in recent times all over the far-flung holdings of the Brown Co. The West Branch country was about 80 percent spruce. It was for this lush cover only that Emery's forces headed. The hardwoods would be left for the later ravages of fire or the cuttings of future generations.

The lumber railroad followed the river along its west bank for about six miles to the point where the present road from Route 110 to the York Pond Fish Hatchery crosses the Upper Ammonoosuc River. From here the right of way followed today's road to York Pond, whence the main line continued west about two miles along the route of the current Bunnell Notch Trail of the U.S. Forest Service. There were also two shorter spurs in this area, one leading down the location of the current York Pond Trail and the other curving a bit north on the general line of the Unknown Pond Trail. Portions of the west ends of all three sections of this rail location are still quite noticeable.

Jim Keenan started his long and remarkable logging career on this Kilkenny operation. His memory of the few years he spent in this area was that "it was intensive logging on a grand scale", totally unlike any forest cuttings done in New England today. Everything except the hardwoods came down, and the best was rolled off by rail to the Ammonoosuc Mill in West Milan to be cut into lumber.

Later, both the Lumber Co. and its rail subsidiary, through the Hobson interests, became involved with the Glen Manufacturing Co. in Berlin, at that time one of the largest newsprint plants in this country and one which was itself a subsidiary in the growing realm of the International Paper Co. New pulp-processing methods had taken hold, and much of the final cuttings from this West Branch country went to the hungry jaws of these new pulp grinders in Berlin. Up on the West Branch the cutting of big sticks had been so intense that in 1899 a large portion of the Emery and Keenan crews was transferred to Colonel Haskell's latest operation in the Wild River country, in Bean's Purchase. (See APPALACHIA, December 1959, page 527). Much of the rolling stock and rail equipment was subsequently transferred to Wild River, although occasional steam engines continued to operate off and on up the valley from West Milan until 1903. It was in this year that the disastrous Kilkenny wilderness fires put an end to all lumbering on most of this once verdant basin for many years to come, just as they did in many other parts of the White Mountains in this same 1903.

Unfortunately, authentic descriptions of the fiery days from May 13 to June 8, 1903, don't exist. For New Hampshire and particularly its mountain country this one month caused more permanent timber loss and damage than any other similar period in its known history. Newspapers of the day did however carry stories that outlined briefly the searing drama which was occurring around Berlin and all over northern New Hampshire in those tense days:

> Three fires visible from Randolph in the Ammonoosuc Valley.
>
> Mills in Groveton are closed and all the men are on the fire line. Whitefield is surrounded [by fire]. Berlin is encircled by fire with one starting in Stark near Mill Brook and going south and east.
>
> Berlin is surrounded by fire to within one-half mile.
>
> Pilot Range is invisible [from Lancaster] because of smoke. One fire is on Pilot Range threatening Berlin, one at Cape Horn and another at Devils Slide. Another on Starr King Mountain is threatening Waumbek.

The Kilkenny fires of 1903 ultimately covered a total of 25,110 acres in what was then a badly cut-over Upper Ammonoosuc basin. This was almost 70 percent of the entire area! The owners were fortunate in that most of their valuable stands of spruce had been removed. These fires ended for a long time all logging in the area except at the upper (Randolph) end of the East

Branch. A U.S. Forest Service survey report in 1916 stated: "This fire killed everything standing and most of this has subsequently blown down".

Now, some sixty years later, the amphitheater of the Upper Ammonoosuc still wears a cloak of mystery, despite the roads to Bog Dam and Camp 19 and to the extensive York Pond fish hatcheries of the U.S. Department of the Interior in the center of the valley. The most recent A.M.C. *White Mountain Guide* states: "The district lying immediately north of the Crescent Range and east of the Pliny and Pilot Ranges constitutes a small-scale wilderness area of much attraction". Newell Cotton, a columnist for the *Coös County Democrat* in Lancaster for a number of years, writing in the 1951 summer issue of *White Mountain Echoes,* sounds this note of isolation for Kilkenny: "Kilkenny is now a place of untroubled solitude and echoing silences. Man could not conquer its forests; no man has tilled its soil, cleared its land or built his home upon the banks of any of its streams. . . . May it never be desecrated again."

How fitting that 3000 feet above sea-level, at the very heart of the area stripped by the Upper Ammonoosuc Lumber Co. and its railroad, there lies a lovely mountain tarn called "Unknown Pond". Despite the ravages of man a new inscrutable cloak is growing in Kilkenny.

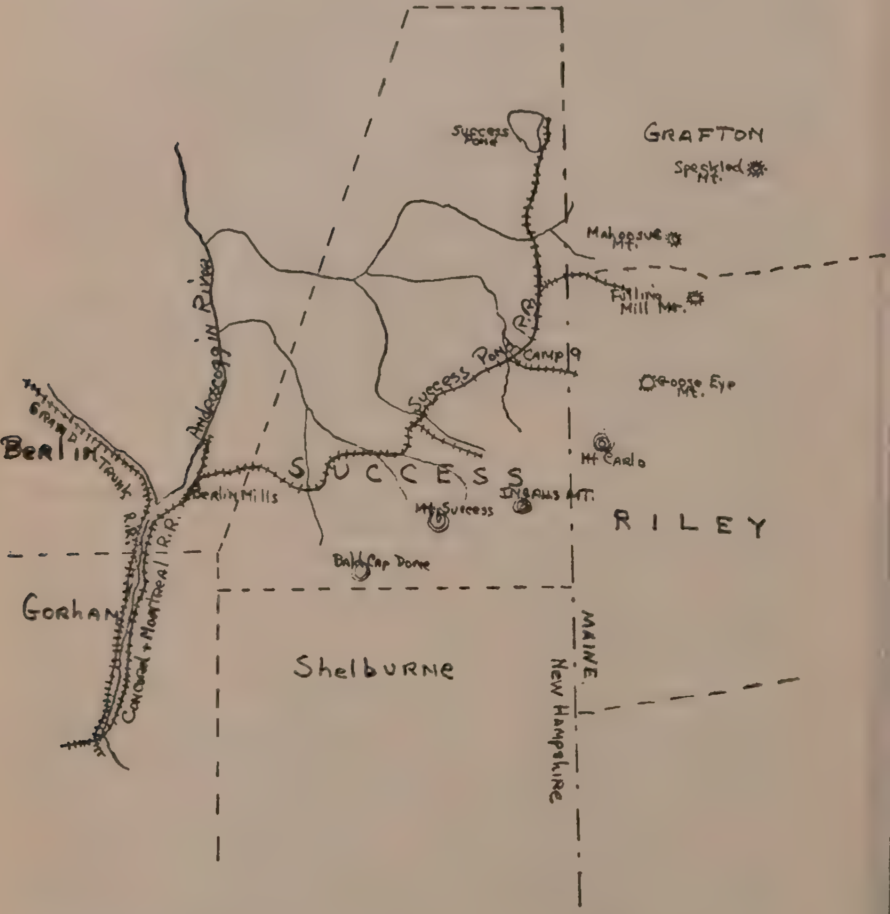
SUCCESS POND R.R., 1894-1907. (KNOWN ALSO AS BLANCHARD & TWITCHELL CO. R.R., 1894-1904, AND GEORGE W. BLANCHARD AND SON CO. R.R., 1904-1907)

The late Dr. Harry P. Nichols included among the many stories for which he was justly famous in the Randolph Valley one which was frequently heard any time that the Mahoosuc country was mentioned. It ran something like this: "What a pity it is that everyone the world over spends a lifetime seeking success, when here in northern New Hampshire lies a township called Success in which no one even cares to live". *The History of Coös County's* brief description of this unusual, uncared for township reads similarly: "Success is a cold, rugged township . . . with an area of 30,000 acres. . . . Five families lived there in 1823 in one house, but scarcely anyone since. It is an area of great timber with immense growths of spruce and pine."

Success was more than a township in the lives of George W. Blanchard and Cassius M. C. Twitchell of Milan, N. H. It was another notch on their way to personal and financial success and a large step towards a place in the logger's mythical hall of fame. While it is regrettable that more about these two North Country giants hasn't survived the passage of time, enough has been written and told to make any story about them interesting.

George W. Blanchard came from West Milan, where his family operated a large sawmill whose hungry bandsaws had whined through thousands of spruce and fir-flavored logs from the virgin forests of the area. The knowledge and language of lumbering were in his blood from the start.

Cass Twitchell, from Milan village over the hill, had grown up on the edge of the forests. His father had been a resourceful and well-proved lumber baron who had bought and sold the Coldbrook Academy Grant of 10,000 acres shortly after the public lands of New Hampshire had been released by Governor Harriman in 1867 for private purchase. (See APPALACHIA, December 1959, p. 517.) Subsequently, the elder Twitchell had combined with others to purchase extensive tracts in Clarksville in northern Coös County and in the neighboring Province of Quebec.



Besides pursuing his forest interests Cass Twitchell was the leading member of the firm of Twitchell and Holt in Berlin, operators of the indispensable livery adjunct required by any logging operation of those days. Today's reader must remember that all the log hauling from stump to landing was then done solely by teams of horses. While today's methods call mainly for mechanization, nonetheless a picture caption in the April 1960 issue of *New Hampshire Profiles* (pp. 16-17) reads: "Canadian-made Bombardier may replace horses in the lumberjack's trade . . . but most cutters still add a horse's muscle to their own fine skill".

In the eighteen-nineties there were literally hundreds of horses in that part of the North Country which centered in Berlin. With the competition of three large pulp concerns operating there—Berlin Mills Co., Burgess Sulphite Co., and Glen Manufacturing Co.,—as well as large lumber mills in Groveton, Milan, Stark, Stratford and Whitefield, Cass Twitchell was doing well to be listed in the *History of Berlin, N. H.,* in 1897 as the most successful livery operator in this growing and thriving community. His horses were the best. To him can be attributed the start of a later reputation of which Berlin would be justly proud: it was to be known for its collectors of the finest horses. Cass was to know other good horses as well, iron horses.

In 1892 Blanchard and Twitchell combined to buy up extensive tracts of forests in Grafton and Riley, Maine, on the western flanks of the Mahoosuc Range. These were supplemented a year or two later by the purchase of most of the town of Success, toward which they started laying the rails of their logging railroad in 1892 and 1893. The final connection between their line and the mills of Berlin was not effected until January 1, 1894, when the Concord & Montreal R.R. agreed to the necessary connection-switches at the east end of the wye near their engine house off Hutchins St. on the east side of Berlin.

On page 45 of the *History of Berlin, N. H.,* by Bailey K. Davis (previously referred to) there is a good report of the Blanchard & Twitchell Co. as of that date:

> These two enterprising young men have bought some valuable timberlands in Riley and Grafton in the western part of Maine and conceived the idea of pushing a railroad from Berlin to Success. . . . After obtaining right of way rights from [intervening] landowners in early 1892 [they] began making a railroad through the woods and that season extended twelve miles of railroad into the woods. In their first year [they] brought out 20 million board feet of softwood and have been gaining ever since. Since building the railroad, they have bought nearly all Success, and this year brought out 25-30 million feet.

According to this history, four to five hundred men were employed at the height of the season; two heavy engines and one light one were used for motive power; and twenty-car log trains were a common sight along the route between Success Pond and Berlin. Passengers were carried both ways—mostly visitors to the logging camps in the woods, fishermen en route to Success Pond, or the loggers and camp workers themselves. In addition to hauling their own logs, which were sold for a price to the three major Berlin pulp companies, the Blanchard & Twitchell Co. R.R. also carried out hardwood which was sold locally for firewood. Being "enterprising young men", they also contracted for spruce-log hauling over their rails for the Berlin Mills Co., who owned the rest of Success. Adjacent to the C. & M. R.R.'s wye off Hutchins St. the Blanchard & Twitchell Co. had two buildings: their main office building, including a depot and a company store, and an engine house and repair shops where even the log trucks were made by their employees. By 1897 these two Milan natives and their employees were carrying a good part of Success to Berlin.

The Berlin connection of this railroad has already been mentioned, but what of the rest of the fourteen miles to the business end of the line at Success Pond? This description is easy, since the right of way followed with hardly a deviation the route of the current, rough-surfaced Success Pond Road (good for jeeps, jalopies and qualified trucks only) to its terminus just east of Success Pond. During the fourteen years of operation of this line numerous spurs or sidetracks were built to accommodate log landings near or, in some cases, well off the right of way. The longest of these were the one at Camp 6 (six miles from the wye in Berlin), one at Camp 9 clearing (the start of the present Goose Eye Trail nine miles west of Berlin), and a third that left the main track 11.7 miles from company headquarters and ran in the direction of Mahoosuc Notch for a half-mile. Logging camps were scattered all over this vast area at strategic points and the principal ones were tied together by a telephone line that ran between the Berlin Office and Success Pond. One of the largest camps was at Camp 9, previously mentioned, where in addition to the usual logging-camp buildings there was a large company farm with its familiar barn for the many horses that Cass Twitchell's livery concern had at work for the Blanchard & Twitchell Co. Early Appalachian Mountain Club guidebooks give references to the unique logging signs left in this region from the Blanchard & Twitchell Co. era.

Earlier in this story we mentioned the sale of the Brown's Lumber Co. to Cassius M. C. Twitchell in 1902 and its subsequent resale by him in the same year to the Berlin Timberland Co., realty subsidiary of the newly-formed Brown Co. (a consolidation of the Berlin Mills Co. and the Burgess Sulphite Co.). While the record dims at this point, it does appear that Twitchell's livery and real estate interests took precedence over those of a railroad to Success. On March 1, 1904, Cass Twitchell sold his interest in the Success Pond R.R. to the George W. Blanchard & Son Co., once of Milan, N. H., then of Auburn, Maine, and later of Portland, with George W. Blanchard at the helm as president and his son, Maurice F., as treasurer. This sale and change of management must have had an interesting prelude, since Maurice F. Blanchard had become associated with the Brown's Lumber Co. in Whitefield in 1900.

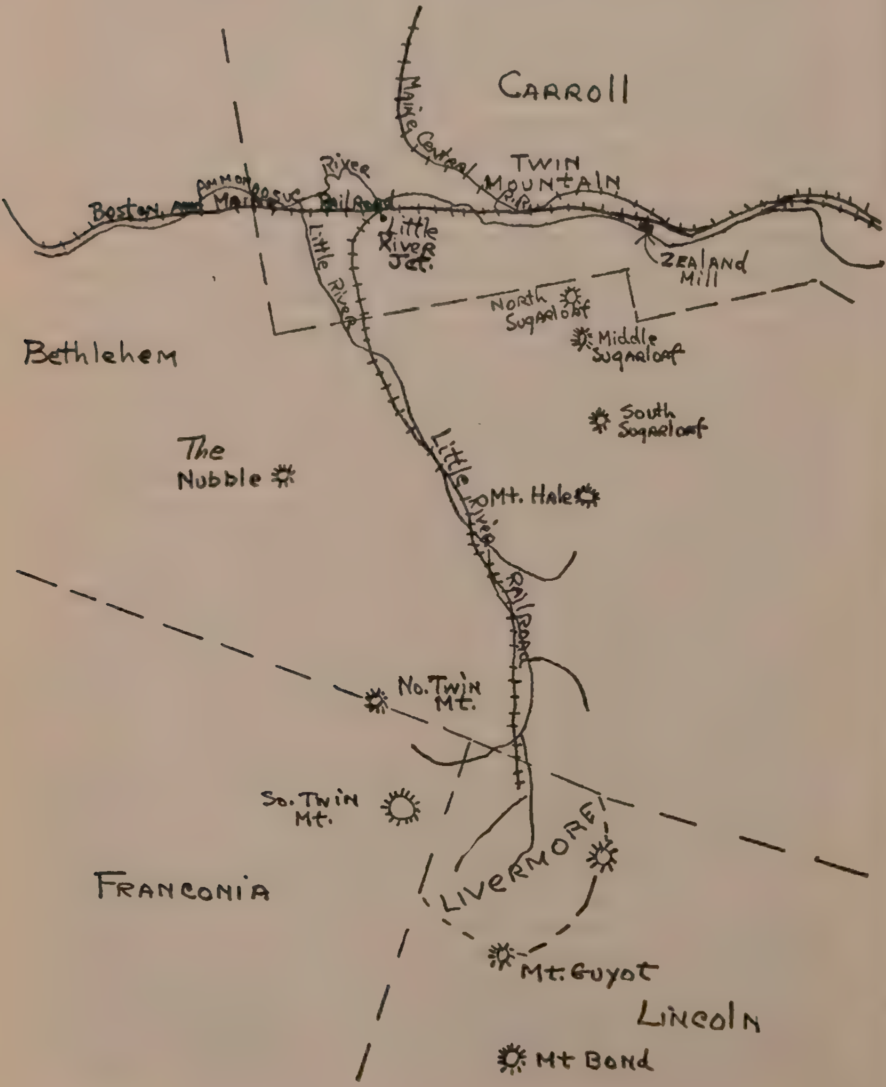
Even in the terse language of the law (*New Hampshire Supreme Court Reports,* Vol. 74, page 116), there was written evidence that this period of the flowering of Success, of the Blanchard & Twitchell Co., of the George W. Blanchard & Son Co., and of the Success Pond R.R. was more than just a lumber railroad operation. It was indeed the real, stark living of hundreds of people—largely plain people like most of us, colorful people in lesser numbers. It was rough. It was dramatic.

In the case of *Hobbs, Administrator, versus the George W. Blanchard & Son Company* the court stated factually that: the defendant corporation (Blanchard Co.) conducted extensive lumbering in Success; it operated a company railroad that furnished the only access to the company camps in the woods; it was an approved practice of the Blanchard Co. for friends to visit their friends in company woods camps and to be allowed free rides for this purpose on the company trains; Mr. Corbin and his family, including Tommy, Jr., had been with the Blanchard Co. in Success four years before; the company walking boss, Joe Durant, had invited the Corbins to visit one of the company woods camps over the Christmas holidays in 1904, but only Tommy, Jr., had accepted the invitation; the company dynamite boss, Lacombe, on December 26, 1904, had inadvertently left some of his dangerous charges outside the camp door where Tommy was visiting; *and* Tommy, Jr., in search of material with which to build a sled and with hammer in hand to make the sled whole, never knew that he had whacked a box of T.N.T.

George E. Cummings, Superintendent at that time of the then White Mountain Division of the Boston & Maine R.R., wrote his superiors in Boston on May 14, 1909, that the Success Pond R.R. contract No. 4171 with the George W. Blanchard & Son Co. was canceled. Tersely he stated: "The railroad operation of George W. Blanchard & Son Co. is out of business here and has performed no railroad service on this line since May 1907". The B. & M. R.R. took over control of the 1,600 feet of connection track to protect their wye where today rests a depository for pulp refuse from the mills. The only connection, that by rail, between Berlin and Success was broken. Success and its timber would be harvested in the future by other means of transportation and by other persons, but only after it had had long years in which to stretch and grow another verdant crop. Success has had many meanings in this part of the White Mountains.

LITTLE RIVER RAILROAD, VAN DYKE AND CO. (1893-1900)

This short-lived, six-mile logging railroad, which ran south from the now abandoned Boston & Maine R.R. tracks about one mile west of the former Twin Mountain depot (now a barber shop in summer) to the head of the Little River basin between



Mts. Hale, North and South Twin, Zealand and Guyot, was George Van Dyke's one and only lumber railroading experience. But this one and only operation by rail didn't mean that this sturdy native of Stanbridge, Quebec, was inexperienced with trees and lumber. In fact, he was beyond doubt the king of all the famed timber barons of his day in the Granite State. George Van Dyke was essentially a river man. His spring river drives of long logs from the vast holdings of his Connecticut River Lumber Co. in Pittsburg, N. H., to company mills in Wilder and Bellows Falls, Vt., and Mt. Tom and Holyoke, Mass., were a familiar and lusty event for thousands of inhabitants of three states on both sides of the Connecticut River. Fortunately for the permanent record, these dramatic drives have been ably chronicled by Stewart H. Holbrook in *Holy Old Mackinaw,* by Ernest Poole in *The Great White Hills of New Hampshire,* and quite recently by Robert E. Pike in *Spiked Boots.*

Ernest Poole, on pages 36-38 of his book just mentioned, gives a clue to the background of Van Dyke's only logging railroad venture:

> Though he [Van Dyke] kept to the Upper Connecticut through the main part of his life, he once ventured down our way and in the Pemigewasset valley went into partnership with the big timber king of the region. J. E. Henry was his name. . . . Seeking his next slaughter ground, he [J. E. Henry] looked over the Pemigewasset wilderness across our rugged range, and in that lovely valley and up on the mountain sides he found such grand spruce and pine that in 1890, with George Van Dyke, he bought 70,000 acres and by hard bargaining paid a mere pittance for the tract. To survey it he employed one of our ace surveyors, a Dartmouth graduate and a friend of mine. When the survey showed about a billion feet of lumber, figuring how to edge Van Dyke out of their next prize, J. E. proposed:
>
> "Now George, I'll make you a proposition. We bought in here together, but this ain't big enough for the two of us, and besides you're busy on other big jobs. So, I'll leave it up to you. I'll give or take $100,000 for your share or mine. What do you want to do, buy or sell?"
>
> Pleased by the price and figuring that if he stayed, J. E. would trim him soon or late, Van Dyke sold stumpage valued at five million dollars later on.

At the time of this transaction J. E. Henry was at the height of his lumbering career. His center of operations was the now extinct village of Zealand in the town of Carroll at the confluence of the Zealand and Ammonoosuc Rivers. But J. E. Henry was in process of moving to a new site in Lincoln. He had already cleaned out the timber of the upper Pemigewasset via his Zealand Valley R.R. but hadn't got around to touching the adjacent Little River valley, which was his. In the bargaining mentioned above by Poole, Van Dyke came up with the ownership of this virtually untouched valley of virgin timber. He kept his side of the bargaining going for several years by contracting with J. E. to cut his logs at Henry's less and less busy Zealand mill. Early Appalachian Mountain Club exploration trips partway into this valley, in connection with the opening up of a trail on North Twin Mountain, indicated the trees in this basin to be "fine" and such natural phenomena as waterfalls to be well worth visiting. But not for long!

Originally J. E. Henry's interest in lumbering Little River appeared in his incorporation of the Little River R.R. by Chapter 183 of the *Acts of New Hampshire* for 1891. His co-incorporators were his sons George and John, and William A. Stowell and George E. Cummings. The last two were officials of the Concord & Montreal R.R. (later the Boston & Maine R.R.) and had more than a passing interest in the line hauls of lumber that would continue to flow from Henry's Zealand mill. Chapter 215 of the *Acts of New Hampshire* for 1893 reveals the result of what must have been some interesting trading between these two famed lumbermen, Henry and Van Dyke. The new grantees or incorporators of the now "Little River R.R." were George Van Dyke of Lancaster, N. H., John H. Locke, his partner and general manager for this operation, and Irving Drew and Chester B. Jordan, Van Dyke's capable and ever-present lawyers from his home town.

On August 5, 1893, Van Dyke and Locke contracted with the Concord & Montreal R.R. for the rental of six miles of complete track material (ties, rails, switches, frogs, spikes, etc.), with the first mile having been delivered before June 1, 1893, and the balance to be received by June 1, 1894. In January of 1894 a second contract was executed by Van Dyke and Co. with the Concord & Montreal to provide for operation of Van Dyke's logging trains over the main line of the C. & M. from Little River Junction (on the plains near the open-air theater west of Twin Mountain on Rte. 3) to Zealand mill, subject to their rules and at a price of 50¢ per mile for each train or engine move! Logs were going to roll down the Little River R.R., for Van Dyke was noted for his flowing movement. His wooden dollars would grow faster and fatter at Henry's mill than on his own stump. Even though the hauling distance on the C. & M. main line was only four miles, today this charge seems to be absurdly low. But remember that the C. & M. was renting its track material to Van Dyke and later would get freight receipts for the line haul of lumber to the city markets.

The Little River R.R. project was no exception to the rule that Van Dyke was a hard driver on river or on land when timber and men were concerned. Official railroad reports show that in the year 1896 the Concord & Montreal line received a total of $9,865.17 for the use of its four miles of main line of railroad between Little River Junction and Zealand mill by the Van Dyke interests. "P. Y." (his call letters) Learned, retired chief train dispatcher of the Boston & Maine R.R., started his over-fifty-year railroading career in this period at the C. & M. R.R.'s station at Zealand and vividly reported to me that there was constant engine and train movement over these tracks by the Little River R.R.

The bargaining between J. E. Henry and George Van Dyke even included the railroad locomotives and cabooses. After all, it was easier for George to rent his rolling stock from an old friend and partner than to invest heavily in equipment of his own for just one railroad operation, and J. E. Henry's newest main interests were just commencing in Lincoln. Everyone knew that his Zealand line wasn't as busy as it had once been. The Concord & Montreal R.R. by contract furnished log trucks—at cost—for Van Dyke's railroad with the name "Little River R.R." cast therein! (This might insure their traveling in the right direction after unloading at the mill!) The river driver was still driving good bargains. Existing records unearthed in my research indicate that about the only equipment George Van Dyke and his woods boss, John Locke, owned on this job were these log trucks and the camp buildings up the Little River valley.

No writers or records have ever accused George Van Dyke of being unsystematic or inefficient where trees or wood were concerned. He was thoroughly in character as he cleaned out the Little River basin on his railroad. By 1900 this area had been denuded. Supt. George E. Cummings of the (by now) White Mountain Division of the Boston & Maine R.R. reported to Boston in August of 1900 as follows: ". . . this valley has been combed thoroughly and this operation is through".

Van Dyke's contract with the connecting railroad was canceled, effective on August 5, 1900, as the result of Cummings' recommendation. Van Dyke had the last laugh at that. It wasn't until June, 1909, that the Boston & Maine recovered the track equipment rented to the Little River R.R. some seventeen years before. (This was only two months before George Van Dyke's tragic and spectacular death at Turners Falls, Mass., when his chauffeur, on orders from the boss in the back seat, drove the Van Dyke limousine too close to the edge of a high bluff overlooking a typical Van Dyke log jam on the Connecticut River below; the banking gave way and slid off into the river, carrying with it the car, the chauffeur and the lumber baron.) Most of this equipment was good for less than scrap, having survived the twisting and searing of a ravaging forest fire in 1903 as well as the natural wear of seven years of North Country weather. It would be many years, perhaps never, before this once unspoiled valley would produce as pure wooden dollars as it did for George Van Dyke and his Little River Railroad in the period from 1893 to 1900.

MORE SKETCHES FROM THE NORTH COUNTRY

by Arthur Stanley Pease

Fire-Towers

High or low towers, in early days of logs, now more often of steel, with comfortable cabins at their top, usually provided with a stove, a table, a bunk and perhaps a chair, are found on our northern mountains, so skilfully placed as to command the widest possible view of forest and to detect the first faint curl of smoke from any incipient fire. In the middle of each cabin is usually a map glued to a round table, provided with a metal pointer or alidade, pivoted in the middle, which can be aimed toward the smoke and by which the angle of direction may be noted. Telephone connection with other similar watch-towers, equipped with similar pointers, and the plotting on the map of the point where two of these lines of observation intersect immediately and exactly locate the position of a fire, and the telephone promptly dispatches men with the necessary equipment of shovels, water-tanks and chemicals to cooperate in its extinction.

So far most fire-towers are alike, though they may differ much in relation to their summits. Formerly it was thought that the higher the post of observation the more extensive and effective the view, but experience has shown that lower elevations are less likely to be muffled in cloud, and that from one of them it is possible to lift up one's eyes unto the hills as helpfully as to lower them from the mountain top to the lesser molehills.

Towers also differ in that some of low stature are placed on bare summits merely to protect the observers from wind, cold and rain, while others must rise high to overtop the wooded peaks on which they stand and give an unbroken view of forest, lake and mountain. All must be well protected by lightning-rods, for ever since the time of the poet Aeschylus the attraction of mountain summits for lightning has been proverbial. An important social difference between tower and tower lies in their respective distances from highways, food supplies, and civilization in general.

But more unlike than the architecture, the location, or the accessibility of the towers are the personalities of their denizens, the watchmen themselves. That they must be sober and reliable in order to be of any use whatever, is obvious; that they must be

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The first series of these sketches appeared in Appalachia for June 1959 (pp. 299-310).

able to fetch their own supplies, cook their own meals, and do their somewhat limited housekeeping is also clear, though in some more accessible stations there is, of late, a tendency to employ married couples. But that the more remote must be able to endure their own company, little interrupted by callers, without becoming morbidly depressed by loneliness, stormy weather, or strange animal noises, is a prerequisite. Some watchmen are young, but the greater number are still probably men in middle, or past middle life, usually cautious in opening a conversation with strangers but secretly pleased at any company which breaks the monotony of their routine, and often garrulous by the time their visitors are ready to depart.

Typical was Frank Leavitt, the watchman on Mt. Cabot, who, when I saw him, had held that post for twenty-two seasons, and who, despite his sixty-four years, could still walk uphill faster and more continuously than most youngsters in their twenties. His grandfather had come from the north of Scotland; his father had designed and published a curious map of the White Mountains, half map and half picture, half true and half imaginary, with real and fanciful railways running as freely as dirt roads through every valley, and with hotels, real or visionary, at every point of vantage. The son exercised his imagination by fabulous tales of the forest. He once saw, he told me, two porcupines standing on their hind legs, bracing themselves with their tails, and sparring with their paws until they lost their wind, then "yelling" at each other. Or again he related how lightning took the skin off both his feet, as a result of which he had to live for six months on spoon victuals. Lightning one night took the tablecloth and dishes from his room and laid them unbroken on his bed, without overturning a lamp on his table. Romancing of this sort comes easily in the forest, as the Paul Bunyan saga bears witness. (Thus my neighbor, Walter Simonds, while resting after lunch with his fellow-workers, would regale them with such bits as "When I was down in Barbados I was ploughing with a team of elephants, and. . . .")

Fire-watchmanship ran in the Leavitt family, for his brother, Victor, a tall, loose-jointed countryman, swift in traversing the trail, voluble in stories, and still able to speak a little of what he asserted was Gaelic, acted for some years as watchman on Pine Mountain, where he welcomed climbers with apparent gusto. But suddenly he disappeared, and inquiry revealed that, in reaction against the social whirl at the summit of Pine Mountain, he had requested and obtained a transfer of his activities to an unfrequented tower in the north woods, where during the long season he would see scarcely any person save the inspector of such posts. (A young watchman on Gore Mountain in Vermont told me that he had had only six visitors during all the previous summer.) The question might perhaps be raised whether the Trappists might successfully find recruits among the tower-men, or else the tower-men among the Trappists. Had Henry Thoreau had this outlet for his economic ambitions it might have surpassed the making of lead-pencils.

And perhaps Thomas Carlyle might here have found an honest and useful profession, with large opportunities for that silence which he so volubly commended.

A Short Half-Mile

Those there are who chafe at time spent in retracing familiar routes, from house to railway, grocery, or office. They know the exact number of minutes required for these daily or twice-daily trips, and often they can predict just whom they will probably meet on their way. If an elephant escaped from the circus, or the fire department hurrying to a blaze, should interrupt their routine they might feel a momentary thrill, but for any less exciting incident they are coldly ungrateful. I dare say that some who daily walk that most spectacular of European streets, the Maria Theresien Strasse in Innsbruck, become so accustomed to the mountain ramparts at either end as to take them for granted, and to turn their thoughts inwardly upon themselves; for the truly marvelous, ever attending our steps, we constantly neglect in favor of some tawdry supposed novelty.

The half-mile I here have in mind extends from the post-office in Randolph to the railway station, across a broad and breezy meadow, overlooked on the north by woods and hilly pastures for some years cowless and hence already dotted with dark, pointed conifers, and on the south bordered by the line of the railway, the forests beyond it, and the upswelling heights of the backbone of New England. Such are the views on the valley's two sides, while its ends are closed, to the east by the ledgy summits of mountains of secondary magnitude but beautifully varied outlines, and to the west by the pale blue of more distant peaks. One familiar with the scene could recite to you in a moment the name of each summit, ridge, or cliff, point out the courses of the chief brooks, and easily differentiate the V-shaped stream-valleys from the U-shaped glacial cirques. Yet I have known life-long residents to classify each natural detail under the indiscriminate term "the mountain", but they keenly and accurately observe whom a passing acquaintance is driving in his car; so great is their curiosity towards the transitory and human, their carelessness of the natural and eternal. Yet even the most insensate are at times affected by the rare beauties produced by changing phases of dawn, midday and evening, of sunshine, cloud or rainbow, and that they lack a facile and precise vocabulary by which to share their emotions with others is no sure indication that such emotions are entirely unfelt or that no thrill ever arises from viewing a familiar scene in a transient and less familiar mood.

But there are other observations that one may make as he crosses the meadow. If memory reaches far enough, he may recall the fine, upstanding figure of the farmer who once cultivated it; who daily drove his herd of cows from his barn across the main road and up into the hillside pasture which it was their duty and privilege to keep from growing up to evergreens, and drove them back again at the close of their day's work; who thoughtfully kept the barn doors open in the early evening until he knew that the barnswallows were in for the night; who carefully spread over the meadowlands the enrichment from his cowsheds, and prudently rotated year by year the few crops which the short season permitted him to cultivate. With his death the town lost not only its most successful farmer but a most effective and respected citizen. The herd of cows had to go, for lack of his care to tend and milk them. First goldenrod, then alders and spruces invaded the stony pasture; the tall grass in the meadow was sold, to be sure, and mowed, but, unenriched from the herd, its stature grew annually less, and the aristocratic grasses, like timothy, gradually gave way to wiry, more weedy and less nutritive species, while that delight of the painter but plague of the farmer, the devil's paint-brush, like a hostile army, seized, with seeds and runners, upon a larger and larger acreage, as rotation of crops and periodic plowings had to be abandoned. To see all this, as one crosses the meadow, needs, perhaps, memory as well as eyesight, yet he who walks may read.

Not far from the station, on each side of the road, may be seen a narrow gravelly strip divested of topsoil and probably meaningless to the casual observer. Yet this I always, as I pass, recall was where once was an esker, the bed of a subglacial stream filled with gravel and pebbles, making a narrow, winding ridge about fifteen feet high and some hundreds of feet long. This ridge proved so attractive to the roadmakers, both by its substance and because of its convenient location, that it was long since razed to the level of the rest of the meadow and is now waste ground in which to look for wild strawberries and the invading plants of mossy stonecrop.

Near the other end of the half-mile the road crosses the little river by a substantial cement bridge, replacing an earlier, more artistic structure of logs and planks, of which I am happy to possess a water-color sketch by one of the earlier summer artists of the community. On the bridge I always stop to look into the pebbly, brown stream, and see the large tussocks of dark green sedge *(Carex torta)*, often bending their leaves over into the water (like long-haired patients undergoing a shampoo in a barber's basin), but held so firmly by their tough, cord-like roots that no freshet can ever eradicate them, however deeply its waters may cover them over. The glint of sunshine on the water, as one crosses the bridge, well deserves a glance, as do the spring blossoms and the autumnal fruits of two species of mountain ash and two of shadbush which line the banks. A little hump by the roadside shows the dark blue flowers of a clump of bluebells, escaped from the post-office garden and here persistent for perhaps half a century, unlike their fugitive cousins, Venus's looking-glass, of which a few plants appeared recently on the shoulder of the road, the only locality yet known in this county for this little blue-flowered wanderer from farther south.

It is not in the province of the botanist to plant along the roadside species not spontaneously growing there, in fact, it is considered botanically unethical to do so; but in the case of noxious weeds there is no prohibition upon his helping to eradicate them. Hence I take a certain pride in a campaign, now covering several years, in which I have pulled up all plants of ragweed seen growing on the shoulders of this stretch of highway, with the result that what was becoming abundant there is now all but eliminated. For the lowly and harmless pineapple weed, however, which in the last decade or two has been growing here more and more abundantly, I have only the kindliest feelings, and often pause as I pass to pinch one of its unfinished-looking heads and continue my walk in the memory of its fragrance.

These humble roadside interests are but a few of those which this unfenced highway, rather bare at first glance, has to offer. An ornithologist would make quite a different selection, not forgetting the redwinged blackbirds rising from a moist swale where the mowing-machine does not venture, or the rows of birds lining the telephone wires before a rain, while an observer of butterflies or spiders or grasshoppers would find his own particular delights as engrossing as I do mine. Nor have I yet mentioned the statistical interest which may arise from discovering how many species in flower may be seen on a single walk without leaving the limits of the highway. (On one occasion nearby I gathered a bouquet of eighty species to take to a neighbor on her eightieth birthday.) Yet these hints may at least suggest that not only this but every half-mile of road is still inadequately explored, even after repeated visits, at all seasons, and in all weathers, with memories of the past (geologic, economic and personal), observations of the present, and expectations of the future.

Blue Distance

One reared on a hilltop, if loyal to the scenes of his youth, will never feel completely satisfied without some distant mountain, lake or forest upon which to steady his eyes and, even more, his aspirations, and by whose standard to measure the petty activities and ambitions of his life. On Andover Hill, as I lay in bed in the morning, I could start the day by seeing through one window the bulky form of Mt. Wachusett and, by turning my head toward another window, the paler blue—or in winter the sharper white—pyramid of Monadnock. One need not stand on some Mount of Transfiguration, from which the vision turns to all points of the compass (though that too has its own particular thrill), for, large or small, the artistically framed vista, either glimpsed for a moment in passing or familiar through long and affectionate observation, brings its poignant emotional delight. Moat Mountain seen from the summit of Pinkham Notch, Mt. Bigelow from Eustis Ridge, the Chief Mountain at sunset at the edge of Glacier Park, the setting of a Mediterranean sun over Corsica or over Patmos—as R. W. Gilder writes of "sunsets that redream the Apocalypse", as the bride in her flame-colored robe greets her husband—or the far-flung Laurentides at twilight across the broad St. Lawrence at Rivière-du-Loup: these are but a few choice specimens from my own mental photograph-gallery, but each of us may make an equally valid canon for himself.

This is not a pleasure peculiar to any one part of the world, for often in an Italian painting of a religious or a secular scene there is drawn aside some curtain or opened some little window giving upon a blue peak—perhaps Monte Amiata—as if to remind us that nearby and engrossing events are only properly to be understood against the background of nature—*sub specie aeternitatis,* as it were. Ruskin in his *Praeterita* tells of such a background in a portrait painted of him as a child and, in more detail, in his notable chapter on "The Mountain Glory" in *Modern Painters,* he dwells upon the introduction into painting by Giotto, Perugino, Fra Angelico, Raphael and Bellini, of blue mountain distances.

Perhaps it is mere fancy, but I like to compare these alluring glimpses of the unattained, this Delectable Country of *Pilgrim's Progress,* with a passage in Chopin's *Funeral March* where, after a somber beginning, in which the dull, heavy, initial beat of the music befits the inevitability and apparent finality of death itself, and a more tranquil portion succeeding might suggest the obvious consolations to be sought in our happy memories of the deceased, there then bursts for a brief moment through the gloom a clear, bell-like melody, declaring, could we but see it, behind this dark but thin curtain of cloud, the existence of a sunlit peak of immortality, however that oft-disputed word may be defined. To quote again from Ruskin, in the ninth part of *Modern Painters:* "At the close of a Shakespeare tragedy nothing remains but dead march and clothes of burial. At the close of a Greek tragedy there are far-off sounds of a divine triumph, and a glory as of resurrection."

Ambitions attained commonly lose something of their acute thrill, and similarly blue distance is never blue when we reach it; in fact, you hardly realize when you have attained, and some persons, fond as they are of mountains, prefer to leave some much admired peak unscaled that it may in their minds continue blue and mysterious, rather than grey with the shattered gneisses and granites of reality—leave it unscaled rather than tarnishing, as Thoreau says, with their feet the blue of distant mountains. That this feeling is appropriate, not for silly sentimentalists but for robust minds, Sir Evelyn Wrench makes clear, when describing in the London *Spectator* the late premier of Canada, Mr. W. L. Mackenzie King: "Whenever he could escape from his official duties Mr. King sought refuge at Kingsmere (in the hills near Ottawa); he took us up to his first-floor room and told us what that view of untrod forest, stretching northwards towards Ungava and Labrador, meant to him. In those years when the burdens of leadership at times seemed wellnigh unbearable, he drew inspiration from those illimitable spaces, and returned to his work with his confidence in divine guidance renewed." In its widest sense, this principle of the inspiring and sustaining vision applies to all life, and the blue distance of the future is avouched by the blue distance of the past. Tennyson well asserts that

. . . all experience is an arch wherethro'
Gleams that untravell'd world, whose margin fades
For ever and for ever when I move.

JOSEPH SEAVEY HALL, WHITE MOUNTAIN GUIDE

by BRADFORD F. SWAN

FEW OF THE OLDTIME WHITE MOUNTAIN GUIDES are remembered at all by those who visit the region nowadays. Only one of them, Vyron Lowe of Randolph, is still alive. Others have achieved a degree of cartographical immortality by getting their names on the map.[1] But if Benjamin Osgood, the Glen House guide, has his trail and his ridge on Mt. Madison, Ethan Allen Crawford, the mightiest pilot of them all, his famous path over the Southern Peaks, and Charles E. Lowe his monument in the trail he built over the northwest slopes of Mt. Adams, Patrick and Thomas Culhane have had to settle for their name on a brook (which is no better than Mr. Lowe's dog, Snyder, achieved) and Joseph Seavey Hall got exactly nothing to be remembered by.

And yet Joseph Hall was one of the most active guides in the mountains and, in an astonishing variety of ways, a pioneer entrepreneur and engineer on Mt. Washington. He claimed that it was he who transformed the Crawford Path from a blazed and cairned trail into a bridle path. He built the first summit house that was anything more than an emergency shelter. He completed the Carriage Road from just above the Halfway House to the summit and was the first to ride over it after it was officially opened. He guided for Oakes and Tuckerman on their early botanical ventures and took down into Tuckerman Ravine the explorers who named the Fall of a Thousand Streams and Hermit Lake. He found Dr. Ball alive and helped him down the mountain. He carried down the remains of Benjamin Chandler, for whom the Chandler Ridge is named. He bore Lizzie Bourne's body down to the Glen House in a makeshift casket, and it was he who heaped up the rocks for her well-known monument.

As a child of eight he knew at first-hand the profound shock which the Willey tragedy had upon the families living in the

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[1] Such cartographical immortality is dubious, at best. Dropped from recent maps, for instance, is the name of James Gordon, the Gorham guide for whom Gordon Ridge, the eastern boundary of the Snyder Brook Valley, was named, and the stream which was called Miss Barnes Brook on Louis F. Cutter's 1917 map of the Northern Peaks has been uncolorfully abbreviated to Barnes Brook on current maps of the Mt. Washington Range.

lower part of Crawford Notch. In his early forties he marched through Pennsylvania with the 11th Regiment, Vermont Volunteers, and fought in the Battle of Gettysburg. At some time in his middle years he built a trail up Burke Mountain, near East Burke, Vermont, and later enlarged it into a bridle path. After the Civil War he went west, mined silver in Nevada and then moved on to California where, according to family tradition, he once more indulged his passion for building roads up mountains and houses on mountains by constructing another carriage road, this one up Mt. Diablo. A Hall family tradition has it that his only daughter, Josa, was born in the house he built on Mt. Diablo, which was the first substantial structure on that peak.

His first wife had died during his Western sojourn, and he had married a widow, Julia F. Betts, who became the mother of Josa. Heading back eastward he settled, in 1884, in Frankfort, Benzie County, Michigan, where he lived in a house on Ninth Street for the next ten years. It was while he was living in Frankfort that he wrote two long letters in 1887 to the editor of *Among the Clouds,* telling of his career in the White Mountains. That year or the next his second wife died and he married a third time. His third wife was Calista Fay of Hardwick, Vermont, a former schoolteacher who had boarded with Joseph and Sarah Hall when they were living in East Burke, probably in 1853. He was still in Michigan in 1894 but in 1896, sickly and feeble, he was living at the home of his brother-in-law, Herman Fay, in that part of the township of Hardwick called Hardwick Street. There he died in 1899 in his 82nd year.

Joseph Seavey Hall had been born in Bartlett, New Hampshire, on March 24, 1818, one of eighteen children of the Rev. Elias Hall, a Baptist preacher. The Reverend Elias was married four times; he had two children by his first wife, Hannah Tinan, five by his second wife, Polly Hubbard, and eleven by his third wife, Hannah Seavey; his fourth wife, Phoebe (Chase) Mead, was a widow with grown children of her own when he married her.[2]

Elias Hall had been born in Falmouth, Maine, in 1777, but his father, Joseph, moved to Bartlett while Elias was still a child and established a homestead beside the Saco River about three miles east of Sawyer's Rock. The Halls, the Thompsons and the Emorys were the only families living in that region at the time.

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[2] For this and other genealogical data about the Halls I am indebted to Miss Dorothy C. Walter of Providence, R. I., whose grandfather, Dudley P. Hall, was Joseph's younger brother. Miss Walter has also made available to me a memoir of Joseph Seavey Hall written by her aunt, Mrs. Herbert E. Walter, who formerly wrote a column for the *Providence Journal* under the name of Alice Hall Walter. This memoir, entitled *A New England Pioneer,* contains some dates which do not fit the known facts of Joseph Hall's life, but it also contains certain charming reminiscences of Joseph Hall not to be found elsewhere, and it will be quoted extensively later in this article.

When Elias grew up he pioneered for several years in Shapleigh, Maine, with his brother-in-law Tinan, but after the death of his first wife he returned to Bartlett where he also established himself beside the Saco in what Joseph Hall calls Middle Bartlett. There he was the toll-keeper at a bridge which went out on the night of the Willey Slide. In 1832 he moved farther up the Notch, to Hart's Location, where he continued to earn his living as a toll-keeper on the road through the Notch, which was used extensively by freighters traveling between northwestern New Hampshire and Portland, Maine.

Nine of Elias Hall's eleven children by Hannah Seavey survived in this rugged environment and most of them proved to be rather remarkable people. Joseph, the subject of this article, was the third son. While most of the others left to seek careers elsewhere he and Charles Hall, the fifth son, stayed home. At the age of seventeen Joseph was chopping wood, two hundred cords of it, for Thomas J. Crawford up at the Notch House. In a letter written to the editor of *Among the Clouds* on August 4, 1887, and printed in that newspaper on August 20, he states:

> On the 2d of October, 1835, being then 17 years old, I commenced work for Thomas J. Crawford, then proprietor of the Notch House, located at the head of the Notch, and about one fourth of a mile from where the Crawford House now stands. In the summer of 1836 I acted as guide to Mount Washington, and for four successive summers from that house conducted pedestrian parties of gentlemen over a foot-path to the summit of Mount Washington. The first four [i.e., two] miles to Mount Clinton was marked by blazed trees, and monuments, or little piles of stone, marked the path thence over Mounts Pleasant and Franklin, to the east of Mount Monroe and the Lake of the Clouds, to the summit of Mount Washington. There was no place to shelter on the way, or on the summit. I had many perilous trips for myself and company, and I saw the need of better facilities for ascending Mount Washington and suggested to Mr. Crawford the practicability of a bridle path to Mount Clinton, and a shelter to protect visitors from the fearful storms we so frequently had to encounter.
>
> In the fall, I think, of 1839, with the help of Mr. Wm. H. Crawford, (now deceased) and my brother, Charles Hall, I built a passable bridle road to Mount Clinton, and ladies as well as gentlemen rode horses as far as the path was built that fall. The next summer there was great excitement over the road, and it was pushed through to the very summit of Mount Washington.

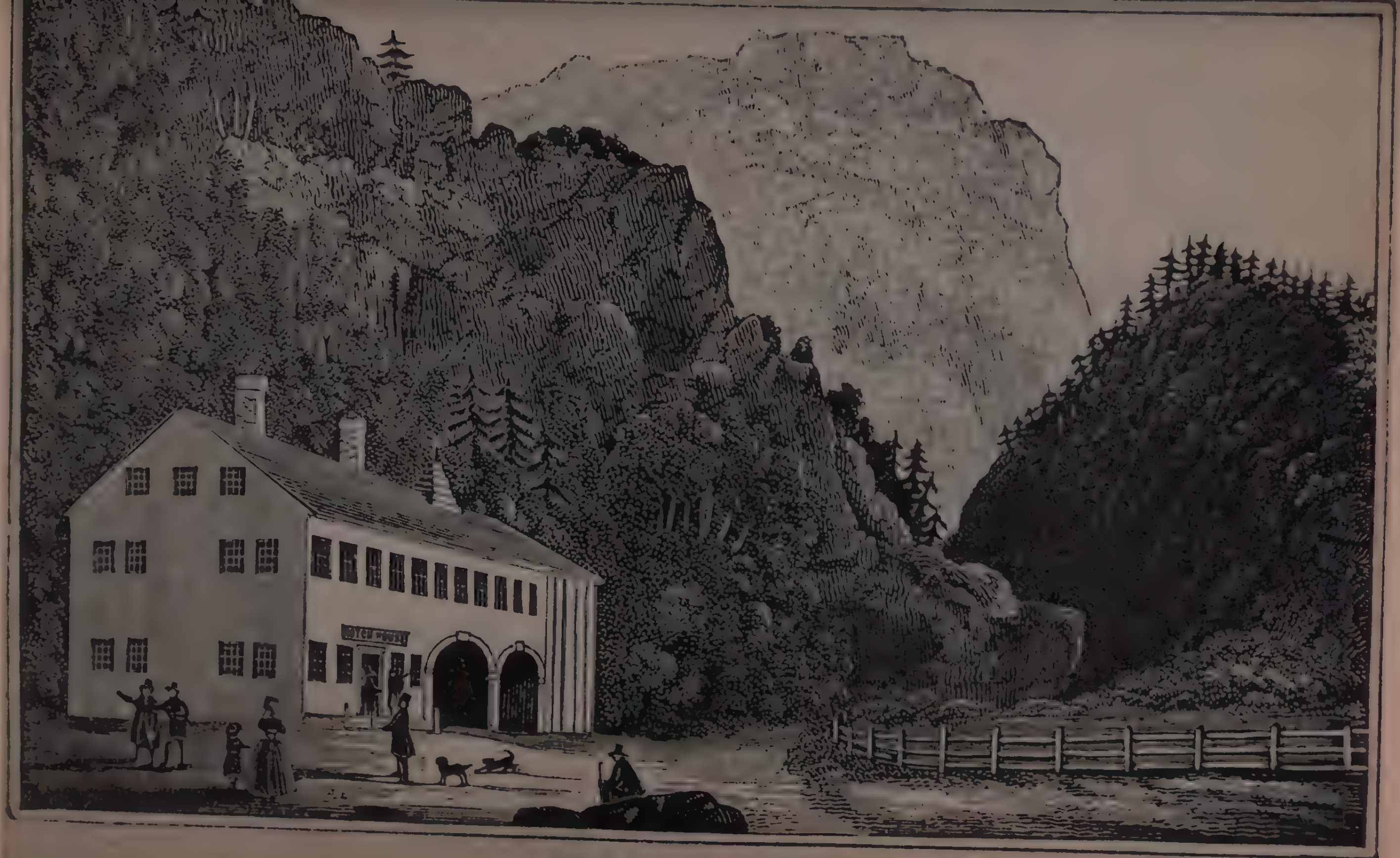
In the Walter memoir Hall is quoted as giving a slightly different version of this part of his career:

> . . . My time was employed and divided as follows: in winter, tending stable, shoveling snow, doing general work belonging to a tavern in those days, and the remaining hours of the day to cutting and piling wood on the spot where the Crawford House now stands. In the winter of 1832-33 [i.e., 1835-36] cut and piled two hundred cords of wood on the above-named ground. In spring my

> time was employed in the usual routine of chores and farming until the season came, or rather, visitors, to the White Mountains.
>
> There was no railroad then, no bridle road to Mount Washington, and the only way to ascend Mount Washington from the Notch House was by spotted trees through the forest, two miles, and thence from Mount Clinton, six miles, guided only by piles of stone or monuments to Mount Washington . . . these placed along the way to prevent being lost in fog. I found the task arduous and even hazardous often, to myself and those who placed themselves under my protection as their guide, on account of the terrific storms that we often encountered wholly unprotected from shelter of forest or house.
>
> My career as guide to Mount Washington commenced in 1832 [1836] and continued two seasons, when I saw the necessity of better facilities for reaching this much sought and popular resort. I was Professor Longfellow's guide, when he was a student, over this rough and perilous route.
>
> I advocated a bridle road through the forest to Mount Clinton, and not until the fall of 1833 [1839] could I get permission of my employer, T. J. Crawford, to enter upon the undertaking, thought to be impossible. Two men, Charles Hall, my brother, and W. H. Crawford, younger brother of my employer, were hired to assist me in what was thought to be a most hopeless undertaking. Our success was the result of a good bridle road to Mount Clinton, and we saw horses, with their riders, ladies and gentlemen, at the end of our path.
>
> In six weeks we built the bridle path to Mount Clinton and took horses over it. The path was made of hewed logs and corduroy. It was not quite completed to Mount Clinton when a lady and gentleman came on horseback, considered a great affair. Two years later the road was built to Mount Washington, and long trains of horses with their timorous riders might be seen winding their way over their perilous route with perhaps an equal number of ladies.
>
> Abel Crawford, father to Ethan Allen Crawford, was the first man who rode a horse up Mount Washington. Next year the Notch House was filled with tourists. We could not get horses enough. I used to ride all night to collect horses enough to take a party. We started about seven o'clock. As there was no place to stop on the mountain, we had to come back the same day. Often caught in terrific storms, we would collect the horses with heads together and make a shelter for the ladies, while the hail cut terrifically.

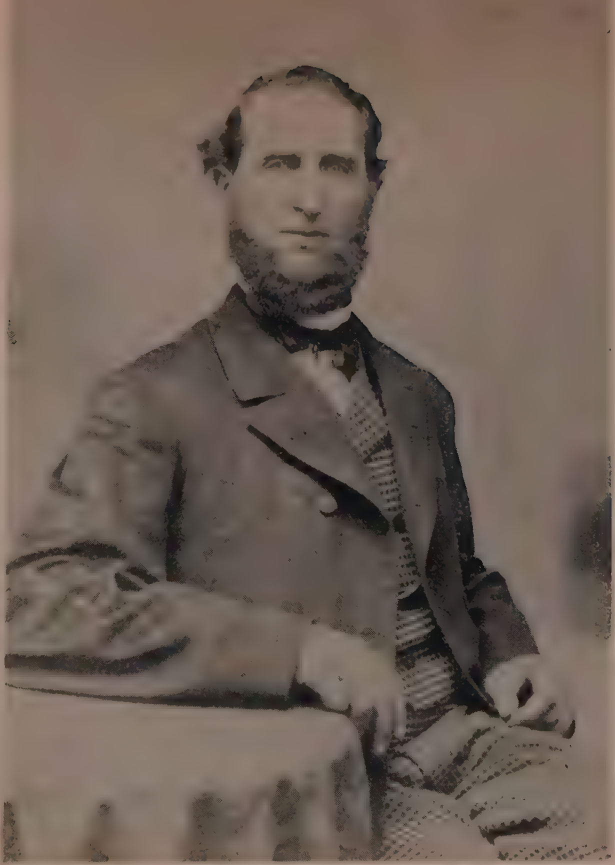
We have one testimonial to Joseph Hall's qualities as a guide in those days at the Notch House. "Bro. J. G. Adams", writing in *The Symbol, and Odd Fellows Magazine* for November 1844, describes his second of two ascents of Mt. Washington and at its conclusion states:

> . . . And here I must not withhold a tribute to that guide—the *honorable* Mr. Hall—far more worthy this title than many who by conventional usage merely obtained it. If there beats not under his weather-beaten exterior the soul of a true gentleman, then in his attentions and self-sacrifices, and toiling up and down that long tedious mountain pathway, and in all his intercourse with our fellow travellers, have we mistaken him. We believe however there is no error in this estimate of the man.



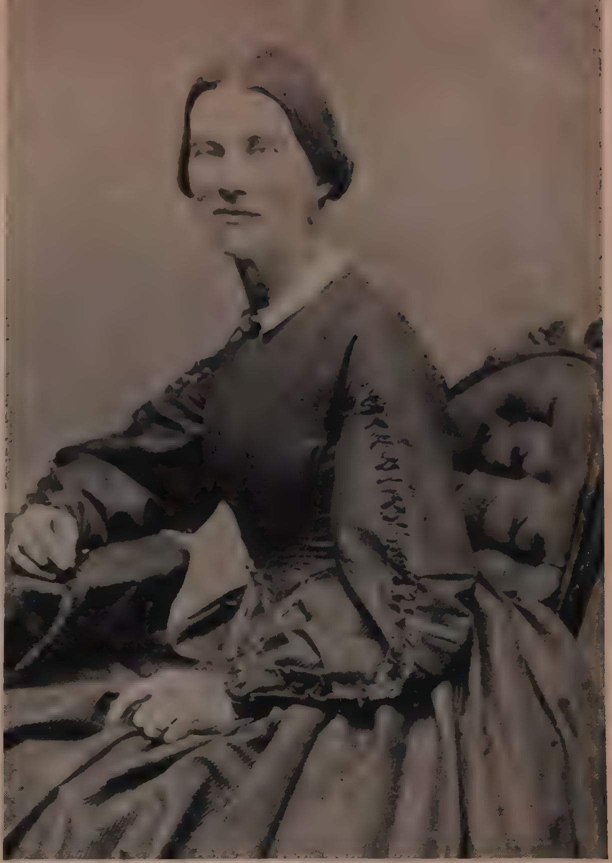
THE NOTCH HOUSE.

From *The Symbol, and Odd Fellows Magazine,* November, 1844



JOSEPH SEAVEY HALL

White Mountain Guide



SARAH (CRAWFORD) HALL

First Wife of Joseph Hall

Since Bro. Adams was inclined to be critical of his fellow-man —he didn't hesitate to observe that Landlord Crawford was "not to be outdone in the extraordinary of incident", which was a nice way of saying that Thomas J. could tell some whoppers and wasn't inclined to let any story-teller top him, and he prayed that "soon one evil guest may be expelled from the far known Notch House . . . that evil spirit, Alcohol"—we can take his tribute to Joseph Hall's qualities as not lightly given.

John H. Spaulding, in his *Historical Relics of the White Mountains* (Boston, 1855), includes Joseph Hall in his list of the early guides, or pilots, as they were frequently called. He writes:

> The White Mountain Guides should all be remembered. In our lengthy notice of Ethan [Allen Crawford], the White Mountain Giant, we do not mean to eclipse the worthy deeds of other noble spirits, who have followed his old path, and even made new ones for their own feet. This mountain region is truly haunted, as it were, by peculiar influences, that call to its attractions as dauntless men for guides as our New England mountain-land can boast . . . Honor to whom honor is due! Then let us not be unmindful of Ethan, who grappled with nature in her wildness, and made gigantic difficulties surmountable; and let us remember the names Tom Crawford, Hartford, Hall, Cogswell, Dana, and Lucius M. Rosebrook, Leavitt, Hayes, and others, who have followed piloting for a series of years on these mountains. These are all men in whose hands the tourist was comparatively safe; and, though the most of the above names are with the past, others are on the stage, who have an ambitious desire to outdo, even, in skill and management, those whose foot steps they follow. We will not praise the living guides of the White Mountains; their actions speak monuments of honor to their own names. Have confidence in their integrity; and may they never betray their trust!

Benjamin G. Willey, in his *Incidents in White Mountain History* . . . (Boston, 1856), remarks that "Joseph S. Hall . . . was a guide from the Notch House for many years. . . ." And Thomas Starr King in *The White Hills* . . . (Boston, 1859), notes Hall's activities on the mountain in his statement: ". . . when we recall the number of persons whom Mr. Hall, one of the present landlords of the summit, has saved from impending death. . . ."

There is one other reference to Hall as a guide which I have come across in the literature. S. B. Beckett, in his *Guide Book of the Atlantic and St. Lawrence and St. Lawrence and Atlantic Rail Roads, Including a Full Description of All the Interesting Features of the White Mountains* (Portland, 1853), tells how Hall guided him and a companion from Charleston, South Carolina, down the cone of Mt. Washington and over the headwall of Tuckerman Ravine on August 20, 1852, on an exploring expedition along the Cutler River, or the Crystal Stream, as Beckett called it. Hall was then running the Summit House, which he had built earlier in the summer, and was no longer working for Thomas J. Crawford at the Notch House.

The trio descended without trail, apparently to the grassy shelf where the traverse section of the present Tuckerman Ravine Trail crosses the headwall. Here they noted the numerous branches of the waterfall, which they promptly named the Fall of a Thousand Streams. Despite the lateness of the season the snow arch had not collapsed, but its upper edge had pulled so far away from the cliff that they could not jump the gap. Instead, they descended between ice and rock "and passed under the snow bank through a passage made by the torrent, where an arch, at least ten feet in thickness, was above our heads. . . . Here Mr. Hall left us",—presumably to make his way back up the mountain.

Joseph Hall, in both the Walter memoir and his letter to *Among the Clouds,* emphasizes that his guiding experiences had convinced him of the need of some sort of decent shelter for travelers at the summit of Mt. Washington. Bro. Adams, quoted above, remarks that some of his party had to hole up in a small cavern formed by some jutting rocks when an August snowstorm struck the group while they were at the summit. Such experiences must have been fairly frequent. In his letter Hall wrote of the completion of his bridle path:

> For two summers after that I acted as guide for parties numbering as high as forty ladies and gentlemen, and made from four to seven trips a week. The exposure, especially for ladies, called for shelter and protection from the frequent hail and wind storms, and I tried to persuade Mr. Crawford to build a shelter of some kind on the summit; but his reply was, "It would blow down if built of stone". I found to continue as guide from summer to summer was too hard for me, and I retired and spent a few years in New York, but I returned and bought a farm in Jefferson, in sight of Mount Washington. I afterwards married Miss Sarah J. Crawford, March 19, 1845.
>
> In 1851, in company with L. M. Rosebrook, built the old Summit House, commencing the 2nd day of June, and in 40 days thereafter I entertained guests in it. I closed the house for the season Sept. 15th, after doing a business in this short space of time of $2200.[3]

The Walter memoir gives this account by Hall of the beginnings of the Summit House:

> The first house on Mount Washington was built on the second

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[3] I am indebted to F. Allen Burt of Brookline, Massachusetts, for searching the files of *Among the Clouds* to find this letter from Hall and another letter, to be quoted below. Mr. Burt very kindly supplied me with transcripts of both letters.

day of June, 1851,[4] in company with L. M. Rosebrook, whom I persuaded to go with me and to join me in erecting a house of some kind to shelter the numerous visitors, who were often exposed to great suffering from the severe storms that so often came up or which the traveller met at this high altitude.

On this memorable day we decided to commence at once and do our best to accomplish this object; and without going into details, in forty days from that day, we gave a dinner to a crowded house, the original Summit House on Mount Washington.[5]

Saturday previous to opening our house on Monday, a party of thirty came up from the Glen House, and called for dinner. We had advertised to open our house on the following Monday, and were making all possible haste to be ready. Our supplies were being brought up on the backs of horses and had mostly arrived. Our wives, Mrs. Hall and Mrs. Rosebrook, came up that day to arrange the table and wait on the lady guests. Our invoices of cutlery were left over at the Glen House, and only sufficient for twelve persons could be mustered at the Summit House, and thirty were insisting on having dinner.

We finally consented to do the best we could. The table was spread for thirty and furnished with substantial food. I set my Yankee ingenuity to work, and made wooden knives and forks to make up the deficiency.

The bell rang, the company rushed into the hall, and seeing the home-made cutlery, made a rush to be the possessors. After dinner the cutlery was taken away by the guests.

Six years later a lady accosted me and asked if I recognized her. On replying in the negative, she said she was one of the illustrious

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[4] Although Hall gives the date as 1851 in both his letter and the Walter memoir, all other historians of the mountain give 1852 as the year in which the Summit House was built. Since Hall, later in his account, says he discovered the following year, which would be 1852 by his reckoning, that the Spauldings had built their Tip Top House that summer, and John H. Spaulding, in his 1855 book, states that the Tip Top House was built in 1853, it would seem that Hall's memory was faulty in this matter. It seems strange, however, that he should have erred twice on such an important date.

[5] This structure, built mainly of stones taken from the site, stood behind the present Summit House and just northeast of the summit rocks. The walls were four feet thick, and four cables or chains were carried over the roof to hold it down. Frederick W. Kilbourne, in *Chronicles of the White Mountains* (Boston, 1916), says the lumber used was brought up on horses from a sawmill near Jefferson Highlands, presumably using the now-defunct Stillings Path over the Northern Peaks. Kilbourne does not give the source of his information but he obviously had some material not known to me to work with, for he mentions Nathan R. Perkins of Jefferson as one of the entrepreneurs, along with Rosebrook and Hall, something which no one else, including Hall, notes, and he states that D. S. Davis and A. Judson Bedell drove the horses and carried the tail-ends of the boards on the lumber-freighting trips. J. H. Spaulding gives a clearly different version, however, in a contemporary account in the third edition (1858) of his *Historical Relics*. He states (p. 99): "The building materials of the Summit House were brought up from the Glen side (excepting the stones); and those of the Tip-Top House were brought up from the northerly side, towards Randolph". Other contemporary or early writers emphasize that the freighting for the Summit House was done from the Glen. Spaulding says the two structures cost $7,000. Hall's Summit House, after having been used in its latter years as an employees' annex for the second Summit House and the Tip-Top House, was finally demolished in 1884.

> thirty that took dinner at the Summit House two days before the house opened, and that no dinner since could be enjoyed more.
>
> In the year 1853, I was a resident of the new town of Jefferson, Coos County, New Hampshire, proprietor and owner of a one hundred and eighteen acre farm, where I spent my winters with my lamented wife, Sarah, and our summer months on Mount Washington, where I was proprietor of the Tip-Top House at an altitude of 6290 feet, and twenty miles from our farm. The season for being busy on the mountains was about four months, leaving the farm in charge of a trusty man the first of June and returning to our winter home the last of September. The number of guests entertained averaged a little more than one hundred a day, or twelve thousand during the business season.

The letter to *Among the Clouds* goes into more detail on the financial and business history of the Summit House.

> I sold my one-half interest in the Summit House to Nathaniel Noyes of Boston [Hall wrote] and the following summer the business was conducted under the firm name of L. M. Rosebrook & Co. In September, 1852 [1853], when a payment became due from Mr. Noyes, I went from my home in Burke, Vt., to receive my money, and found the Tip-Top House had been built by Spaulding & Co., and that some unpleasantness existed between the two parties. I was called in as peace-maker, which resulted in consolidating the two concerns, I owning one-half, S. F. Spaulding three-eighths, and J. H. Spaulding one-eighth. The business after that was carried on under the firm name of Hall & Spaulding, J. H. Spaulding and myself being the principal parties after the first year, and until I built, or rather finished building, the Mount Washington carriage road in 1859 and 1860.
>
> This road I projected. D. O. Macomber, of Middletown, Ct., optained the charter and became president as well as superintendent of the company. He let the contract for building the road, made the survey, etc. He had omnibusses made at Downing & Abbott's, in Concord, but his impracticability and enthusiasm soon brought the whole enterprise to an end, and for five years nothing further was done. David Pingree, of Salem, Mass., came to the front, claiming to own the "Summit of Mount Washington" under a grant from the State to the Jackson Manufacturing Company from the east side, and John Bellows, representing the Thompson and Meserve Purchase, on the west. Both parties notifying me that I was a trespasser, and in order to keep clear of litigation I took a lease of Pingree; paid him $500 a year for six years, in order to have the benefits of the business undisturbed.
>
> This brought Pingree and Bellows into the courts, which lasted while Pingree lived and cost a large sum of money. I finished the road, and Pingree raised the rent from $500 to $2,000 a year; I left in disgust. John R. Hitchcock carried on the business for several years.
>
> I went to the war in 1862-63; afterwards to the Pacific Coast; returned in 1884, and have made Michigan my home since. I have read two copies of your paper, one concerning the adventures of Lizzie Bourne, Dr. Ball, and Mr. Chandler. All might be corrected, as I myself helped bear the remains of Lizzie down the mountain, found Dr. Ball, and took down the remains of Mr. Chandler. I was guide for Prof. Edmund Tuckerman, a popular botanist, and William Oaks, another botanist, who spent much of their time in the White Mountains in early days. Tuckerman's Ravine took its name

> from the first named gentleman. My lamented friend, Joseph M. Thompson, built the first Glen House the year I built the little stone Summit House on Mount Washington. I have simply given you the outlines of my mountain experience by way of introducing myself. I hope in some future time to visit Mount Washington with my daughter.

Joseph Hall mentions, in this first letter to *Among the Clouds,* his participation in several of the tragic events of White Mountain history. In a second letter, published on September 5, 1887, he goes into greater detail:

> I notice the list of casualties printed in your paper, which are in substance correct. I well remember the eventful night of August 28, 1826, when the Willey family perished in the White Mountain Notch. I was a lad of eight years. My father, with his family, lived on the Saco River, in middle Bartlett, and was toll collector on the bridge which was swept away on the night of the Willey slide. It had been raining two or three days, but previous to that there had been a great drought. On the night of the slide the rain fell in torrents and the river rose so rapidly that it was feared that our house would be swept away. One span of the bridge after another fell until it was all gone, and our house left on an island, a channel being cut on the opposite side of the river. My father, Mr. Goodrich, and my elder brother, E. M. Hall [i.e., his half-brother, Elias Merrill Hall, a child of the second wife, Polly Hubbard], made a temporary bridge of logs, and they succeeded in getting my mother, Mrs. Goodrich, and the school teacher safely over. Then they carried the children over, myself among the rest. During the storm the rain not only fell in torrents but the lightning and thunder were terrific. Cattle and sheep came down with the current, bellowing and bleating, while the continuous roaring and rumbling in the direction of the White Mountain Notch added gloom to the already gloomy night. We all found shelter under the roof of Uncle Linus Hall's house, a half-mile distant.
>
> Two days later, after we had returned to our own home, Uncle Linus came in sight, walking very fast. He accosted my father thus: "Elias, Captain Willey and his whole family are dead . . . swept away by the flood." There was great excitement, and tears were shed. Two of our neighbors, David Allen and David Nickerson, were among the number, nine in all. Hasty preparations were made that night, and the next morning at daylight, father, Mr. Goodrich, and my brother joined the neighbors, forming a relief party, and with packs on their backs and with axes and other implements, left for the scene of the disaster. The bridges were all gone, and horses could not be got through. Father returned Saturday night with the intelligence that Mr. Allen and Mrs. Willey were the first found . . . their bodies being in the bed of the river . . . and Capt. Willey and some of the children later. When the news of the disaster reached Conway everyone who could, joined in the search for the bodies. All but two children were found, and they were temporarily buried near the place of the disaster until winter, when they were removed to their final resting place in Conway.

Joseph Hall's account of the Lizzie Bourne tragedy is worth reprinting here because it is an intimate, first-hand report.

September 14, 1855 [Hall wrote], a party arrived at the Glen House from Kennebunk, Me. Among the number were Mr. G. W. Bourne, his daughter, Lucy, and his niece, Miss Lizzie Bourne, a daughter of E. E. Bourne, an aunt and several others, the entire party numbering fifteen. They engaged horses to make the ascent of Mount Washington the next day. The day of their arrival was stormy and Mount Washington was enveloped in a cloud, but later the clouds broke away for a few minutes and disclosed the Summit. Lizzie, a beautiful young lady, proposed to her cousin and uncle to walk up the line of the carriage road, then partly built to the Ledges. They soon set out, and Lizzie waved back "good-bye" until they were out of sight. They kept on walking until they reached the Ledges, or what was known as the half-way place. The clouds rising a little higher and occasionally showing the mountain before them, Lizzie proposed to go on and spend the night at the Summit, and surprise the party whom they had left at the Glen. Mr. Bourne and his daughter were inclined to return, but Lizzie insisted on going, and so they all set out for the Summit. They had to beat against the wind on their way, and were frequently prostrated on the rocks. They however kept on until the darkness of the dense cloud and the approaching night compelled them to stop. They were then only forty rods from the Summit House. The two cousins lay down on the rocks to rest while Mr. Bourne began to make a little stone shelter, to break the force of the wind. Lizzie sang and was very cheerful. When asked by her uncle how she was she replied, "nicely", and that was her last word, for when he spoke to her again she made no reply. He took hold of her, touched her face, and found she was dead. He covered her with a shawl and placed stones on it to keep it from blowing away, and then with his daughter found shelter under a rock nearby, where they spent a fearful night, not knowing they were so near the Summit. At daylight the clouds lifted and the Summit House could be seen. Leaving his daughter nearly exhausted close by her dead cousin, he succeeded in reaching the house and calling up the inmates, when he told the sad fate of his niece. Mr. Spaulding, Mr. Page, and others hastened to the spot where the poor girl had died. They brought Mr. Bourne's daughter and the lifeless form of Lizzie to the House. Every means was used to restore her to life, but in vain. A boy was dispatched to the Glen House to inform the party what had occurred. I had stopped that night at the Glen House and had started to go to the Summit. I met the boy near the Ledges, who related to me the story. I told him to impart the sad news to the aunt and others, at the Glen, and then I kept on and went to the Half-way House, which was being built. There I had a shallow box made, cut a pole, took some straps from a pack saddle, and with the help of a man carried it to the Summit. After arriving there I found that everything possible had been done at the Tip-Top House for the comfort of Mr. Bourne and his daughter. I proceeded to make preparations to take the body down the mountain. The remains were placed in the box and bed clothing packed tightly around them. The pole was strapped to the box, and with the help of three men, the tallest going forward, we bore our burden slowly and sadly down the narrow bridle path, a distance of nearly eight miles, to the Glen, in a little more than two hours. We were met by the aunt, who exclaimed, "Oh! Lizzie! Lizzie!"

The news was telegraphed to her father, and after the uncle and cousin had come down the mountain the whole party returned

> to Kennebunk. She was the only daughter of Judge Bourne, and the day she was buried was to have been her wedding-day. Her father wrote me a long letter and in it he said, "Moses was taken up from Mount Pisga, Aaron from Mount Horr, and Lizzie, a frail child of earth, to heaven, from Mount Washington. Knowing her as I did, I am sure she would have chosen Mount Washington as the place to pass from earth to heaven."
>
> I placed, with my own hands, the pile of stone, with a rose-quartz cap, on the spot that marks the place where she died, the last time I was on Mount Washington.

Joseph Hall did not go into detail, in this letter to *Among the Clouds,* about his part in the search for Dr. Ball. But, after all, he didn't need to, for his story was already on record, in the appendix to Dr. Ball's book, *Three Days on The White Mountains; Being The Perilous Adventure of Dr. B. L. Ball on Mount Washington, During October 25, 26, and 27, 1855.* (Boston, 1856).[6]

My feeling about Joseph Hall is that he deserves a place just behind Stanley, whose "Dr. Livingstone, I presume?" belongs on any list of immortal phrases. After all, it was Hall who, when the party of searchers he was leading came across Dr. Ball after he had been missing three days in a snowstorm on Mt. Washington, asked:

"Is this Dr. Ball?"

Just whom else he might have expected to find wandering around on Nelson Crag, I can't imagine, but Hall was persistent, and incredulous. When Dr. Ball gave him an affirmative answer, he pursued his examination:

"Are you the person who left the Glen House, Wednesday afternoon, to walk up on the new road?"

Getting another affirmative answer, Hall persisted:

"And have you been out on the Mountain since that time?"

Dr. Ball told him that he had, since Thursday morning.

"It is very wonderful!" replied Hall. "How could you preserve yourself all this time? You had nothing to eat, nothing to drink! And you can stand!"[7]

On November 4, 1855, Joseph Hall wrote a letter to A. Ball, M.D., a brother of Dr. B. L. Ball, giving his whole version of the near-tragedy. Since it tells his part in the search and rescue, as well as giving a brief summary of Dr. Ball's "perilous adventure", it seems worth reprinting here:[8]

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[6] It is perhaps interesting to note that this book, the first edition of John H. Spaulding's *Historical Relics of the White Mountains,* and Benjamin G. Willey's *Incidents in White Mountain History* all were published in 1855 and 1856 by Nathaniel P. Noyes at No. 11 Cornhill, Boston, and that Joseph Hall says that he sold his share in the Summit House to a Nathaniel P. Noyes of Boston, who undoubtedly was the same man, the year after the house was built. Noyes kept a meteorological record on the summit in 1853.

[7] This colloquy is taken from Dr. Ball's book, p. 58.

> My Dear Sir: You requested me to write the particulars of your brother's adventures at the White Mountains; which I will try to do, so far as I am able. The first knowledge I had of your brother's being lost was on Friday evening, October 26; though I had been informed the evening before that there had been a gentleman at Mr. Myers' cottage at the Ledge, the night before, and that he was expected at the Glen House Thursday evening, and had not arrived; but we all supposed that he had stopped the second night with Mr. Myers, and therefore gave ourselves no uneasiness in regard to his safety.
>
> Friday noon Mr. Thompson received intelligence that he left Mr. Myers' Thursday morning for the summit, and had not returned. He immediately sent a man (Francis Smith) to look after him, hoping to find him safely sheltered in the Summit House. But on his return, late in the evening, with intelligence that he had not reached the summit, but he had crossed his trail several times on his way up and back, we had every reason to suppose that he was lost, and that he had perished the night before, unless by chance he had reached the woods, and found a shelter from the fury of the storm. But we could have but little hope that, if he was then alive, he could survive till we could relieve him from his perilous situation. We started as early as we thought proper Saturday morning on our mournful journey, expecting, if we found the object of our search, to find him in the cold embrace of death, and actually prepared ourselves to bear him off *dead*. Our party consisted of three when we started,—myself, J. J. Davis (who assisted me in bearing off poor Lizzie Bourne), and Francis Smith. We took a man at Mr. Myers', and proceeded to within three-quarters of a mile of the summit; there we came to his trail, which crossed our path from east to west. We followed it but a short distance in that direction, when it led us in a circuitous direction towards the northeast, on the line of the carriage-road. After following about a half a mile we crossed our path (the bridle path that we followed up) in a direction nearly east. Here we met Patrick and Thomas Culhane, who joined our party, making six, and then, for the first time, I began to entertain a hope that we should find him alive, as the trail led towards the woods. We followed on with anxious step for the distance of a mile, when we came to a thicket of stunted spruce and fir. Here we lost the trail, as the snow had blown in to the depth of a foot or more, and we separated, after a brief consultation, three to the left, and three to the right, anxiously looking for a camp, or the trail, that we might again pursue the object of our search. We had not entirely passed the thicket, when, to our inexpressible joy and astonishment, we saw your brother, standing erect and alive, having spent about sixty hours in sight of the Glen House, if the cloud had not obstructed the view, without food or shelter but his umbrella, with snow at least four inches deep, and the wind, blowing almost a gale, sufficiently cold to freeze the most hardy of our mountaineers. It is the most astonishing thing in my experience of about twenty years of mountain life. But to proceed; we found him in good spirits, and, although his hands were badly swollen and numb, and his limbs hardly sufficient to bear his weight, he informed

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[8] It appeared originally on pp. 69 and 70 of Dr. Ball's book.

us that he was looking out a way to go out, and had taken the caution to fasten his umbrella to a buttonhole in his coat, in case he needed it to shelter him another night. My feelings here may be better imagined than described. He was suffering from thirst. We could not raise a cup of water to his parched lips, but we hastened to a rock, which, like the rock that Moses smote, and water gushed out to slake the thirst of the children of Israel, afforded the greatest luxury that could be administered. We assisted him down to Mr. Myers', and there administered to his wants as far as possible, using means to take the frost out of his feet, and prepare him as well as possible to ride to the Glen House, a distance of four miles. The first mile he rode the faithful horse Tom, who, as if conscious of his charge, stepped from rock to rock with the greatest caution. We reached the Glen House in about an hour after we left Mr. Myers', to the astonishment of all who had become acquainted with the facts.

I would here add that on Wednesday, the day your brother went to the mountains, there was sufficient rain to form a crust over the snow, by which every foot-print was left. Thursday night there was sufficient snow fell to cover up the trail; but the wind blew the snow out of the track the most of the way, but in the hollows covered it to the depth of a foot or more. Had the snow fallen without wind, there would have been but little chance to find him; and, in less than an hour after we found him, it commenced snowing, and I am satisfied that we could not have followed the trail an hour longer. There is nothing in the history of the White Mountains to compare with this case of your brother; and I am very sure its parallel will not be known in time to come.[9] Your brother can give a more accurate account of the affair himself. I have simply given you a brief account of the case, so far as my knowledge extends, thinking that you might possibly extract something that may be of some interest; especially to know that your brother has our sympathies for his misfortune, and our best wishes for his speedy recovery and future prosperity.

I am, sir, yours very respectfully,

Joseph S. Hall.

In this account Hall does not mention his ministration to Dr. Ball after the rescue party reached the Glen House, but Dr. Ball himself does. Both of Dr. Ball's hands and feet were badly frozen —"discolored to blackness," he says—and he proposed to apply a poultice of flaxseed meal, with oil and charcoal.

"But," he writes, "at the suggestion of Mr. Hall, who from some experience with frozen limbs in these mountainous regions, had great faith in his remedy, and to which I could have no objection, a poultice of charred hickory leaves, pulverized and simmered with fresh lard, was substituted; this being cooled, was laid on the hands and feet, and enclosed with large cloths."

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[9] Hall's prediction was proven wrong in October, 1925, when Max Englehart was out in a heavy snowstorm and terrific gale on the cone of Mt. Washington and in Tuckerman Ravine from about noon on Sunday, Oct. 11, until the afternoon of Wednesday, Oct. 14, when he was found by Joseph B. Dodge and Arthur F. Whitehead after more than 72 hours exposed to the elements. See APPALACHIA, Vol. XXXII, No. 3 (June 1959), pp. 385-395.

The treatment, however efficacious it may or may not have been, was certainly not harmful, for Dr. Ball recovered with only the loss of one fingernail! Recalling the pain of that first night back in the shelter of the Glen House, Dr. Ball notes that it wasn't until nine o'clock in the evening that he felt a strong desire to go to sleep.

"Mr. H. remained in the room with me," he writes, "and, during the night, several times aroused me from my too deep slumber."

In still another place in his narrative, Dr. Ball expressed his gratitude to Joseph Hall.

"Mr. Hall built the Summit House," he explains to his readers, "and resided there two seasons, and is now the proprietor of a hotel at East Burke, which is another commanding point of interest in the beautiful scenery of the White Mountains; *for his noble qualities and disinterested conduct towards the unfortunate,* may kind fortune ever attend him." [The italics are mine.]

Just what this reference to Joseph Hall's proprietorship of a hotel at East Burke implies puzzles me; perhaps Hall was then operating a hotel there after the season ended on Mt. Washington. Hall's letter to Dr. Ball's brother is dated from "Glen" in early November, indicating that he was still in the region as late as that in the fall, and he was back on the mountain in July, 1857, when, according to his own account, he carried down the remains of Benjamin Chandler who had perished the preceding August on the ridge which bears his name.

Perhaps the likeliest explanation is that Hall had built or acquired a hotel at East Burke during the summer of 1853, when he was not operating a summit hostelry on Mt. Washington, and that he continued to own it during his subsequent seasonal operation of the merged Summit and Tip-Top Houses.

Hall certainly was on the mountain during the last years of the Fifties, for he was during that time the contractor for the finishing of the Carriage Road from the Ledge to the summit. The Mount Washington Road Company, chartered in July, 1853, had succeeded in pushing the road as far as the Ledge, a short distance above the Halfway House, by 1856, but there the company failed financially and work was suspended. Two or three years later, a company with a slightly different name, the Mount Washington Summit Road Company, was incorporated, gave the contract to complete the road to Joseph Hall, and saw it completed in 1861. The road was opened to travel on August 8 that year. Hall, in a letter to *Among the Clouds,* the same letter in which he tells about Lizzie Bourne, recalls the festive occasion:

> I know it to be true that George W. Lane was the first to drive a Concord coach, drawn by eight horses, over the carriage road to the

> summit of Mount Washington, but your humble servant, his wife, and Mr. and Mrs. Thompson, by invitation, were the first to ride over the road. They were seated in my carriage, which was drawn by four beautiful buckskins, driven by Alonzo Newell. We were followed by Lane, with his eight-in-hand, who had as many passengers as could hang on to the coach. Mr. Thompson was sometimes seated on the inside by Mrs. Thompson and sometimes was standing on top of the coach, waving an American flag. The excitement ran high and carriage after carriage followed. It was estimated that fully two hundred people were congregated on the summit that day. I had brought up a six pound cannon and a national salute was fired, but there was no responsive echo, until the cannon was taken a mile down the road, when Mount Washington answered back in echo notes. We had some fine speaking by distinguished gentlemen, a bountiful repast, and a safe and happy descent to the world below.

Only one incident in Hall's career remains to be recorded here. John H. Spaulding, writing in his *Historical Relics* of some of the opportunities for exploration still available, refers to Hall finding "the piles of cows' bones last season in the burnt district". In the third edition of this same work the reference is changed from "cows' bones" to "old bones" but Spaulding didn't bother to change "last season", although three years had passed. And just where was the "burnt district"?

I can find only two slim chances for Joseph Hall's attaining that "cartographical immortality" mentioned at the start of this article. There is, on the map, a Hall's Ledge, somewhat less than a mile west of Prospect Farm on the eastern slope of Pinkham Notch. This land was once farmed by a Hall, but no evidence whatever points to Joseph Hall as the farmer. Perhaps this farm, said to be the highest in New England—it lies at almost 2200 feet —was cleared by a relative of Joseph, possibly by a descendant of his Uncle Linus Hall.

Then, years ago, there was a locality in Upper Bartlett known as the old "Hall Stand", which is mentioned in Willey's *Incidents*. This may have been Joseph's father's homesite, or it may have been Uncle Linus', or some other Hall's. But, today, even this is gone from the map.

BLACKSTRAP HILL

by CHARLES B. FOBES

APPROXIMATELY EIGHT MILES NORTH OF PORTLAND, in Falmouth, Maine, stands a low eminence that affords a fine view of the White Mountains and many of the mountains in western Maine. The elevation of the hill is only 503 feet above sea-level. It is known as Blackstrap Hill.

For many years the early European explorers had sailed along the New England coast, but it remained for Captain John Smith in 1616 to produce a map which showed many of the features of the coastline. A study of Smith's map leaves little doubt that he placed quite accurately upon it the topographical features that are known today. To be sure, Prince Charles changed many of the names at a later date, but even with this confusion the mountains are easily recognized. A glance at the map shows a group of mountains on the western side of Pembrocks Bay; these mountains are, without question, the Camden Hills on the shore of Penobscot Bay. Westward is another bay, labeled Harrington Bay. Historians say this is what is now known as Casco Bay. A few miles inland, on the northwest side of the bay, is a hill marked "Schooters Hill". It is my belief that this hill, so designated by Smith in 1616, is that which today is called Blackstrap Hill. Some persons have assumed that Schooters Hill is Mt. Washington in New Hampshire. This hardly seems plausible, for we must agree that Captain John Smith placed in their proper position the Camden Hills and also Mt. Agamenticus in York, Maine, which he called "Snadoun hill". In Smith's *Description of New England* we find, in reference to the mountains, the following words: "The chiefe Mountaines, those of Penobscot, the twinkling Mountaine of Aucocisco, the great Mountaine of Sassanow, and the high mountaine of Massachuset". "Sassanow" had reference to Mt. Agamenticus, and it is highly probable the "twinkling Mountaine of Aucocisco" was Mt. Washington. If there had been a space on the map I believe Captain Smith would have placed "the twinkling Mountaine of Aucocisco" in its proper place, as he did the other features.

Just when the name Blackstrap was applied to this hill is not known, but there appear to be two legends that surround its use. One is based on the appearence of the hill to mariners approaching Portland Harbor. There are no high headlands visible

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as a ship enters the channel, but in the background is the wooded ridge of Blackstrap. It is said that the sailors in bygone days could discern a black strip or strap of land as they approached Portland. This landmark was Blackstrap and it gave them a straight course to a safe harbor. Another story has reference to a drink called blackstrap. An early stagecoach route from Portland to Gray passed just west of Blackstrap Hill. On this road, a short distance from the hill, was Rodman Allen's Tavern, where travelers often stopped. In the days of free rum a concoction of rum and molasses was served here, called blackstrap. Perhaps the proximity of the hill to the tavern where the drink was served resulted in the use of this name.

In the U.S. Coast and Geodetic Survey publications Blackstrap is referred to as Mt. Independence. The hilltop was owned at one time by Mr. Dependence H. Furbish, who erected a tower on its summit. Mr. Furbish was in hopes of making a profit by charging admission to persons who wished to enjoy the view from the top of the tower. The tower was erected in 1853 and as a business venture it was unsuccessful. A picture of Furbish's tower is shown in the June 1955 issue of APPALACHIA at p. 381. A story says that on the appointed dedication day of this tower a severe storm swept over the summit and so the ceremonies took place on the following day. By chance, this was an anniversary date of the naval engagement off the Maine coast between the British brig *Boxer* and the American ship *Enterprise* on September 5, 1813. The final independence from the British may have had a part in this name, or could it have been coined from Furbish's first name, Dependence?

THE WHITE MOUNTAINS FROM BLACKSTRAP

(From an unpublished sketch by G. F. Morse, 1867)

Alexander D. Bache of the Coast Survey established a triangulation point on the top of Blackstrap in 1849. At that time the view was much more extensive than today, for the top was pasture land; now, trees cover the highest point but satisfactory views may be obtained from the upper edge of a field on the north side of the hill. The triangulation parties turned angles to Mt. Gunstock (now Belknap) in New Hampshire and, in Maine, to Pleasant Mountain in Denmark and Mt. Blue in Avon. The latter peak is 67 miles distant. When visibility is excellent it is possible to see Mt. Abraham, 83 miles away to the north, and Mt. Bigelow, 97 miles. In years past the members of the White Mountain Club of Portland were often concerned with Blackstrap and its view. Following are a few entries from the records of the club that prove this point. From the regular monthly meeting on April 16, 1879:

> The evening was spent in conversation and discussion, principally relating to the views from Blackstrap and neighboring hills. Mr. Gould showed a profile from Blackstrap made April 8; a remarkably clear day—showing many low peaks and hills which are as yet not identified.

At the October 15th meeting of the same year the club voted to ascertain if the owner of the tower, Mr. Furbish, would be willing to allow the club to repair and take charge of the tower. At the November meeting it was learned, however, that Mr. Furbish refused the group the right to take over the tower. In reference to the view, again, the following entry was made on January 19, 1881:

> A noteworthy case of refraction had been observed May 7th whereby Mt. Speckle of Grafton and Sunday River Whitecap had been seen over Rattlesnake of Casco-Raymond and resulting in the further discovery that the apex of Speckle can ordinarily be seen from the tower-top with the help of a glass.

Throughout the years the summit of Blackstrap has been adorned by a tower of one sort or another. The Furbish tower fell during a southeast storm accompanied by high winds on the night of February 19-20, 1909. (This is a correction of the 1914 date given in the June 1955 issue of APPALACHIA.) In 1931 the Maine Forest Service erected a 47-foot tower of steel for fire detection purposes. This tower was dismantled in the early '40s and reassembled on a hill in New Gloucester, Maine. The reason for its removal was the fact that Blackstrap was not centrally located in the forested area of this part of southern Maine. Later, in 1954, the Gannett Broadcasting Company built a 316-foot tower on Blackstrap for television purposes. This tower still stands, but it was abandoned in 1959 when WGAN-TV erected the tallest TV tower in the world, 1619 feet above the ground, on Browns Hill at Raymond, Maine.

Probably Blackstrap was better known in years past, before the automobile made distant points more accessible. However, the view is still interesting when the visibility is exceptionally fine.

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CAMP AND TRAIL EQUIPMENT

Part II

by STANLEY W. STOCKER

IN THIS ARTICLE I should like to discuss tents, sleeping-bags and packs, the major and most important items in trail-trip equipment. How do you get information about equipment? Talk with experienced campers and explorers and study camping catalogues. And look at all kinds of equipment yourself. I highly recommend a new book published last summer, *Lightweight Camping Equipment and How to Make It,* by Gerry Cunningham (Ward, Colo.: The Highlander Publishing Co., 1959. $3.95 postpaid). This report emphasizes points to consider in the selection of tents, sleeping-bags, packs, clothing and water repellents, and includes detailed plans for making the equipment should you wish to do that.

TENTS

There is no such thing as an all-purpose tent. You must select a tent for the part of the country you will be camping in and the type of camping you intend to do. Each of the 500 or more tent manufacturers in the country has his own variations of the basic designs.

Selection of a tent fabric is a puzzle in these days. There are hundreds of fabrics, designed for different purposes, and the problem is to determine the good points and the limitations of each. From day to day new synthetic fabrics are being developed, thus complicating the matter of your choice.

Construction and waterproofing are both important. To begin with the second, usually cotton fabrics weighing over 5 oz. per yard can be made rainproof. If under 5 oz. they are delicate and must be treated with extreme care. A 5-6 oz. cotton-fabric tent with steeply pitched walls, a good waterproofing treatment, and large enough so that you won't hit the walls will be quite satisfactory for most camping needs. For real protection in heavy rains a light fly of coated or waterproofed fabric, large enough to prevent rain from running onto the tent itself, is the answer. Actually, this type of tent with fly does not add appreciably to the weight you must carry, as fabrics of 1½-2 oz. are available.

Coated fabrics have good as well as bad points. They are usually quite resistant to abrasion, but moisture will condense on the inside of the tent. They are lighter than standard fabrics, but

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more expensive. If your tent is so small that you roll against the side-walls, perhaps a nylon coated fabric for 6 to 12 inches up the sides of the tent would help during rainstorms. High humidity during rainy weather will result in excessive condensation of body moisture in nylon tents, for which reason they are not considered to be good wet-weather tents. Coated fabrics do not allow any body moisture to pass through.

In varying degrees, waterproofing adds to the total weight of the tent. There are two types, the wet finish and the dry finish.

Wet-finish waterproofing has a slightly tacky feeling. It is usually composed of polyethylene or petroleum waxes which have been combined in a water solution with coloring agents, fillers, and mildew-proofing. These compounds can be applied for between a fraction of a cent to fifteen cents a yard. This is a yarn treatment.

Dry-finish waterproofing is piece (not yarn) dyeing, with a mineral dye. Water-repellency is effected by substances such as silicone, zelan, etc. Mildew-proofing compounds (such as copper naphthenate) can also be added.

Not all fabrics require a waterproofing treatment. Shirley cloth utilizes the swelling of the yarn, when it becomes wet, for the same purpose. This cloth is used in Element cloth, Ventile, etc.

The lighter the fabric, the tighter the weave and the lower the tear strength. (Speaking generally, it may be said that "drill" is fabric which is single-yarn and under 7 oz. per yard, while "duck" is composed of two or more yarns and runs to 15 oz. per yard or higher.) Tent fabrics should be selected which have a balanced construction, with a tear strength equal in both directions, along the warp and the fill. Try to see the tent you are considering buying; at least, get samples of the fabrics, so that water-resistant qualities can be checked.

Tent construction should be checked very carefully. D-rings should be cast in one piece, or bent *and* welded; otherwise, they will pull apart easily. All points of stress, especially at grommets, should have additional reinforcing. Seams should be double-stitched. Be sure the seams won't unravel if one stitch is pulled out or cut. It is very wise to try the tent out before taking it on the trail. Set it up in your own backyard and test it while it can still be returned. Look for wrinkles, for they catch water. Does the pull seem even on all parts of the tent? Check all the details. There are some tents which have storm flaps so placed that you will have to go outside to put them in place. I have used a tent of new type which had no way at all of closing the door completely for rain protection. If the area you plan to camp in requires it, consider insect netting.

Tent floors are desirable in certain situations, but they are difficult to dry and to keep clean, and they are easily damaged.

An 8- to 10-inch sod-cloth around the tent bottom may serve the need of sealing the sides against drafts, without occasioning all the problems of the floor.

Don't overlook the tarp tent as a good low-cost shelter. It usually consists of a 10x10 or 12x12 piece of fabric, so designed that it can be pitched in some eight or more major variations. I have used a 10x10 tarp for two years and found that it has taken heavy strains without tearing.

I would suggest extreme caution in the matter of purchasing surplus tents. Canvas that is old loses strength at the folds when it has been improperly stored. If you decide to buy surplus canvas, it is wise to obtain a written guaranty, making sure that your source will back their merchandise.

SLEEPING-BAGS

In the selection of a sleeping-bag there are two important factors to keep in mind: (1) the thickness of the insulation and (2) its compressibility.

The thickness of the insulation (not its weight) and the resulting deadening of the air is the key to keeping warm. It has been held that one and one-half inches of down insulation is needed for a temperature of 40° F., and an additional half-inch for each 20° colder.

Compressibility is related to your packing needs. A long backpacking trip requires a down bag for maximum warmth and minimum volume. Where weight and size are not so important, a bag filled with a 50-50 mixture of down and feathers, or one filled with Dacron, could be used. The first is less expensive but more bulky than down, while less bulky than Dacron.

Bags for summer use allow more latitude in design than those for winter. A rectangular bag opening at the top, without a hood and with full-length zippers, although adequate for summer, may present problems at low temperatures. A double down bag, with rectangular outer section and mummy insert, was designed for use in World War II, the mummy to be inserted only when cooler temperatures required it. Mummy (form-fitting) bags are winter necessities, for the smaller the area of the bag, the less the surface loss of heat.

The method of closing a sleeping-bag is a problem. While no one would question the convenience of a zipper, it will occasionally jam, and it always provides an area for possible loss of heat. In my Woods sleeping-bag the zipper runs down only a third of the way, which still allows me to turn it inside out for its daily airing but minimizes the loss of heat. Even with the insulated-tube construction cold drafts often appear when you roll around in your sleep.

Velcro tape is a comparatively new method of closing sleeping-bags, as well as down clothing. It consists of two different woven nylon tapes. One tape is composed of tiny loops, and the other is a mass of tiny hooks, like cockleburrs. When the two are pressed together they cling tightly, and to open have to be peeled apart. This is a draft- and snag-proof closing, which does not require an insulated tube, as zippers do, and moreover is very light.

Head-flaps in a sleeping-bag are useless and merely in the way. Air-mattress pockets are not needed unless you over-inflate the mattress. Avoid rubber bottoms; they add to the total weight, and if you roll in your sleep you will still need a groundcloth.

Measure your needs for a sleeping-bag, in length and width. Consider the foot-room and shoulder-room you will need to be comfortable. Except for very cold temperatures, avoid mummy bags, unless you are sure the restriction of your movements will not bother you.

The three best fillings, from the standpoint of maximum warmth with minimum weight and volume, are (1) new goose down, (2) 50-50 down and good-grade feathers, and (3) Dacron Polyester Fiberfill. Other fillers are on the market, but research and experience to date indicate caution with respect to them. Advertisements are full of "warm-sounding" names, but many of these fillers have less insulating value than wool. If you decide to try any of these, be sure to get a guaranty and read the attached labels carefully. Cotton fibers, and other similar fillers of low insulating value, will be identified. And with Dacron there are many grades and varieties; I recommend only the Polyester Fiberfill.

Check the type of sewing. Direct sewing leaves cold spots unless it is baffled or batted with insulation. Check the construction of the insulating tubes carefully. Be sure that the outer cover is cut 6-8 inches larger than the inner cover. If it is not (and many are not), the insulating value of your bag will be sharply reduced, as your body presses cold spots into it.

As far as waterproofing is concerned, we may as well face facts. If we sleep in the open and it rains, we shall get wet. An adequate shelter, such as a 3-lb. one-man tent, is the only way to keep dry. Some completely waterproof sleeping-bags are available, but they prevent the evaporation of perspiration and dampness is inevitable.

If you sleep on the ground, there will be cold spots where your feet, hips and shoulders contact it, due to the compressibility of down and Dacron. Wool batting, with a thin layer of closed-cell plastic foam (e.g. ensolite) is helpful. Adequate protection at these points would make the bag too bulky to carry, and the batting is the best compromise I know of.

PACKS

There are three general types of packs: (1) those without frames; (2) those with a frame which holds the sack away from the back; and (3) packboards, with or without an attached sack.

The frameless pack will keep its shape only if it is partitioned. It is difficult to pack in such a way that the center of gravity will be forward, as it should be for easy carrying. The load lies against your back, an arrangement which is often hot and uncomfortable. However, such a pack can be good for trips of one to two days' duration, with light loads.

The pack with frame was primarily designed for use in skiing, where the center of gravity must be kept low. The load usually lies well away from the back; therefore, a 30- to 35-lb. load will demand the expenditure of some effort, in order to combat the backward pull. In general, the lighter the person, the less he can carry efficiently in such a pack. A panel of nylon mesh or some light fabric which does not absorb moisture, as part of the frame, will help to distribute the load comfortably over the user's back. If the sack is removable from the frame, with the shoulder-straps attachable, it can be used for one-day trips from the base camp.

The bottom of either a frameless or frame pack should be reinforced with leather or a coated fabric; otherwise, it will wear out long before the rest of the pack.

There are many types and sizes of packboards. They may be made of wood, plastic, sheet aluminum, or magnesium tubing. The support for the back may be anything from canvas or nylon-mesh panels to string lacing. Metal tubing makes the lightest and most rigid packboards but, if bent, can rarely be straightened.

For extensive backpacking a custom-fitted packboard and bag will be worth the time and trouble. Some of the better types of packboards come in a range of sizes, allowing you to obtain a pack which fits *you* as well as your needs for camping.

The packboard should extend quite high, so that the load can lie forward, over the hips. On packboards without sacks the heavier articles should ordinarily be lashed on high up; bushwhacking or difficult climbing, however, requires the load to be lower, so that you can put your head back and see above you easily. One type of packboard with sack allows the sack, carrying the heavier articles, to be positioned either high or low, to suit these different conditions.

The usual packboard sack is made of 10-12 oz. double-filled duck, but it may be of lighter fabric. Such lighter fabrics require care and caution in use. Nylon (6-oz.) can be used, but it is difficult to waterproof and the treatment will have to be renewed at least yearly. The treatment also makes the nylon quite stiff.

Some people have taken the Army Surplus pack off its frame and mounted it upon a packboard. This pack can easily be loaded in improper fashion, with the center of gravity of the load low and away from the back.

Most packboard sacks are designed to fit a rectangular board and are not too comfortable for a one-day trip if removed from the board. However, they will serve, if not overloaded.

On any pack the character and placement of the shoulder straps are very important. The upper portion of the straps should be as wide as possible, in order to distribute the weight. Sponge-rubber inserts beneath the straps are a help. In order to assist in throwing the load forward on the back, the lower strap-fastenings should be as far back on the pack as possible.

A waist strap may be worthwhile, for it allows you to transfer some of the weight of the pack directly to the hips. A tumpline may also be of help, in taking the weight off the shoulders when they need a rest.

SKYLINE SKETCH

TWO SUMMERS AT MADISON HUT

by K. D. Swan

Three blasts from the whistle of the Gorham-bound train and the wheels ground to a standstill at the flag stop of Appalachia, on the north side of the Presidential Range in Randolph, New Hampshire. It was the latter part of June, 1909, and I was arriving to take up my duties as hutmaster of the Madison Spring Hut of the Appalachian Mountain Club. The afternoon was pleasant, and as I shouldered my tote bag and headed across the meadow towards the Ravine House, sniffing the brisk mountain air so welcome after the stuffy train ride from Boston, I felt fortunate indeed to have landed the job—a job which enabled me to live for two summers at timberline in country that I loved.

At this period I was working for a degree in Forest Science under Harvard University. During the previous summer I had spent a night at Madison Hut as a member of a walking party and had met Austin Brooks, the first hutmaster. As I remember him, Brooks was a very capable boy, of charming personality, who did much to get the Club's hutmaster program off to a good start. I told Brooks I should like the job when he was through with it, and he promised to give my name to the powers that were. This he apparently did, for when I applied in person for the position the following spring, I found I had been well recommended.

Brooks had constructed the first telephone line from the Ravine House to the hut. The line consisted of about four miles of No. 12 galvanized wire, tied to glass insulators on wooden brackets which were nailed to trees along the Valley Way. The wire was stretched as tight as possible, and would be broken, or ripped from the trees, by any windfall which chanced across it. Split tree insulators were not in use at the time, as far as I know. My first job was to repair this line, which necessitated learning to use climbers. I remember how hard it was to kick the spurs into the hard wood of the birch trunks, or to get a hold on the small boles in the upper reaches of the forest. It was a crude line, but it served well in many emergencies, and was in almost daily use by persons who wished to make reservations at the hut. How often I reported high wind and fog to parties watching the clouded peaks from the Ravine House and hoping for a break in the weather!

Because of its unprotected situation at timberline, the hut received a furious bombardment from northerly and northwesterly winds, which were not uncommon even in summer. In stormy weather fog often made it difficult to locate the building when approaching from the west, and parties coming from Mt. Washington would shout to get their bearings as they came down from the shoulder of Mt. Quincy Adams. An answering hallo from the hutmaster would bring reassurance that they were headed in the right direction. Persons coming to the hut from Appalachia or the Ravine House most often used the Valley Way, which was the easiest and safest route in all kinds of weather. I made the trip several times after dark by the light of a candle lantern, the folding kind once sold by Abercrombie and Fitch.

The original Madison Spring Hut was a one-room structure. An extra room was added about two years before my arrival. At that time it was decided to charge fifty cents per person for overnight lodging, including the use of the stove, dishes, and such wood as the caretaker could garner from the surrounding balsam thickets. Bunks were lined with fir boughs, about which the less said the better. Blankets of the shoddy variety were furnished. These blankets were aired frequently by the hutmaster, and taken to the Ravine House for washing and storing at the end of the season. The gently-sloping roof of the hut was often used on sunny days for the airing.

The original room, which contained the cookstove, was occupied by the men; the newer part of the hut was reserved for the women. The hutmaster had to use considerable tact in assigning sleeping quarters, as families often objected to being separated at night. My instructions, on taking the position of hutmaster, indicated that high standards of decorum must always be maintained, and I am sure they were.

To transport the blankets from the Ravine House to the hut was a man-sized undertaking, and what with repairing the telephone line, cleaning out the dank interior of the shelter, getting food supplies up the mountain, and so forth, I was so busy that I found it necessary to hire help. Twins named Berry took the blanket-packing contract, and after their regular day's work below would spend the evenings trudging up the Valley Way with huge loads. I still remember one enormous pack topped off with several lengths of stovepipe—a comical sight from behind, with the man mostly hidden except for a pair of legs.

When the addition to the hut was built the Berrys had the contract to transport the cement to the site. They used a rather simple device made from a hundred-pound mealsack. The open end of the sack was stitched up, and holes for the head cut through the two layers of the cloth at the center of the sack. The load of cement was distributed equally to each end of the sack, and the head poked through the holes. Most of the weight bore down on the shoulders. I always noticed in using one of these mealsack packs that there was an uncomfortable pressure against the stomach as well as on the small of the back.

Guests began to arrive at the hut the last week in June, and the number increased until a peak was reached the latter part of July and the first part of August. On many nights when the weather was fine one bunk had to accommodate two persons. On more than one occasion during the two seasons when I was at the hut, late-comers finding a full house bedded down with spare blankets in the scrub.

All sorts of people stayed at the hut. There were sturdy, experienced climbers, both male and female, with equipment well adapted for such a trip. There were novices poorly clad to meet the buffeting winds above timberline, often frail women with skirts shortened to ankle length by safety pins. There were husky girls in bloomers and sneakers, and boys whose exuberance often kept the hut in an uproar until curfew was sounded—and sometimes after. The endurance and stamina of many of the pre-teenage youngsters were remarkable. Their elders might be weary from the hike across the Northern Peaks, but not they! After a good meal they would be ready for all sorts of activity.

Appalachian Club members could generally be spotted by means of their hiking regalia—men clad in grey flannel shirts (set off perhaps with a red bandana), soft felt hats or caps, and hobnailed boots, the women in skirts which came to the boot-top, woolen blouses, sweaters tied around the waist, and hats often held in place by a scarf tied under the chin. Usually a tin cup dangled from the belt of each walker. There were variations in garb, of course, but generally there was noticeable conformity to the above pattern.

Food of all sorts was brought to the hut. Many came with lunches packed in shoeboxes, others prepared hot meals on the wood stove. Cooking required a lot of patience, for the balsam and green birch wood was slow burning, and in windy weather produced more smoke than heat as the gusts reversed the draught down the chimney. Oatmeal, rice, bacon, eggs, prunes, raisins and chocolate were among the staples. Erbswurst and hardtack were favorites with Club members. Eagle Brand condensed milk—the thick, sweet variety—was in general use at that time. I used to lean heavily on applesauce made from the dried fruit.

On pleasant evenings when everything was running smoothly I would climb to the top of Mt. Madison, usually taking with me one or more persons who wished to finish the day with a little extra walking. It was a glorious view from this 5300-foot summit at sundown: the ranges to the west silhouetted against a fading sky, the night shadows creeping up from the Great Gulf above which rose the huge bulk of Mt. Washington, the twinkling jewels of Berlin now visible in the gathering dusk. Near Star Lake, in the col directly below, was a white quartz ledge which seemed to have a certain phosphorescent quality in the deepening twilight. In spite of the fact that I have since become well acquainted with superlative mountain country in the West, I often long to re-capture the thrills which came to me while viewing scenes like this in the White Mountains of New Hampshire!

There was much of interest in the immediate vicinity of the hut, and I took many short rambles when business was slack. Perhaps my favorite stroll was to Star Lake and the Parapet. Along the way were tiny clusters of the Greenland sandwort growing among the rocks, or perhaps clumps of the alpine azalea in bloom. Around the lake, or tarn, the white-tufted cotton grass (really a sedge), grew in profusion. Below the hut were thickets of balsam and birch. To me the call of the "Peabody Bird" is one of the sweetest of bird songs. I never found a nest, possibly because of a lack of perseverance, for I am sure this was their nesting ground. I recall that the singing continued well into July. But juncos probably outnumbered other species of birds in the locality. They were easily identified by their white outer tailfeathers as they darted hither and thither in the low-growing scrub or flitted over the gray rocks.

Porcupines were a great nuisance. Here they seemed to hold a rendezvous, attracted particularly by anything of a salty nature. Woe to the person who left shoes or other leather goods outside the hut at night!

Weather was always an uncertain factor. Perfect days would often be followed by dreary periods of wind and rain, with the world above timberline obscured by moisture-saturated clouds. Driving rains and even snow could be expected at any time during the season. Advance notice of these storms would generally be given by a thin veil of high cirrus clouds which spread gradually over the summer sky, to be followed by streamers of scud drifting across the peaks—a warning to be heeded by all walkers on the high trails.

During times of rough weather the hut would often be a haven for walkers waiting for the storm to clear. Usually the time was passed exchanging stories, cooking, or playing cards or other games. There were, of course, periodic sallies into the dripping scrub for fuel, or perhaps an organized trip farther down the trail for birch logs, which burned well green and provided a more lasting fire than fir.

Generally at such times community meals would be prepared, and I can recall sumptuous feeds of "spotted pup" (rice cooked with raisins and condensed milk), or perhaps Welsh rarebit spread on hardtack. There would, of course, be plenty of coffee, tea or cocoa, according to taste. These stormy-weather meals usually came at night, and were eaten by the light of a kerosene lantern. It was a cozy scene—the yellow light on faces gathered around the red oil cloth, while outside, barely discernible through the small windows, was the whiteness of flying scud, or the wind-whipped raindrops cascading down the panes.

Conversation picked up after the dishes were washed and the rooms readied for the night. There would be a free exchange of views on the merits of routes and trails—Lowe's Path, the Castellated Ridge, the Osgood Ridge. Certain oddities were certain to be mentioned, such as the Intermezzo, a short link between the Valley Way and Howker Ridge, marked by a sign on which were inscribed a few opening notes from Cavalleria Rusticana. To this sign some wag had attached a rusty tin can. Some would tell of playing croquet with equipment placed by some generous soul with imagination on a smooth "lawn" over on Mt. Jefferson. The trip over Howker Ridge was generally referred to as "Howking the Howks".

As the evening wore on stories would become taller and taller. We heard much in those days of the "dingmaul", credited to the imagination of the famous White Mountain guide, Birge B. Bickford. If Bick had never carried a pack or guided a single party this contribution to White Mountain folklore would certainly entitle him to a niche in New Hampshire's Hall of Fame. One visitor at the hut left this poem dedicated to the fearsome beast:

Stranger, Beware the Dingmaul

A terrible beast is the wild dingmaul,
Who by some has never been seen at all;
But by some a frightening tale is told
To raise the hair and turn the blood cold.

According to Bick it gives a cry
Like the shriek of a being about to die,
And swings a sinuous bone-tipped tail
Which cuts the air like a whirling flail.

It's often seen on Jefferson Knee,
Where it raises its wail in a minor key,
And follows the walker with stealthy tread,
Advancing as he goes on ahead.

Oh, lonely tramper across the Range,
Take this advice and keep the change:
Watch the trail as the dusk grows nigh,
And listen well for the hideous cry;
And make no rash, unneedful stops,
Or you will stiffen, a gory corpse!

One evening one of the Berry twins and I started for the Castles at about nine in the evening, to look for a missing man. We carried a kerosene lantern, but this was not needed as the moon came up soon and gave us plenty of light for traveling. I have never forgotten the beauty of that night, the moonlight flooding the Castles, the sunrise which we watched from a point far down the ridge where we waited for daylight. We learned later, when we arrived in Randolph, that the "lost" man had spent the night in "the bed of Israel" as he put it, and was waiting to greet us at his home. The bed of Israel's River could certainly provide a choice of boulders for a pillow!

During the summer of 1910 I was engaged by the State Forester of New Hampshire to watch for any forest fires which might be visible from the hut or vicinity. All suspicious smokes were to be reported over the telephone to the nearest fire warden. For this service I was paid $20 per month. There were no fires of consequence to report that season. But it is interesting to note that during the latter part of the summer of 1910 disastrous forest fires took a terrific toll of life and property in the Pacific Northwest, particularly in northern Idaho and western Montana.

Early in September I made preparations to discontinue service at the hut. Blankets were taken to the Ravine House, boughs from the bunks were burned, and shutters put over the windows. It was with a feeling of great reluctance that I closed the door for the last time and headed for the lower country. I have never been back.

VARIOUS NOTES

ALPINA

Ascents and Expeditions. A four-man American expedition consisting of John Humphreys, leader, Casper Cronk, Fred Dunn and John Noxon climbed and carried on scientific work in the Nepal Himalaya for several weeks during the fall of 1959. One peak of about 20,300 feet just north of Dhaulagiri was climbed, and four others of between 18,000 and 19,000 feet, while three high passes not previously explored by foreigners were crossed or visited. Scientific work included geological and glaciological investigations, botanical collecting, and health surveys in some of the Tibetan villages.

Last November it was reported in the daily papers that thirty-two men of a large Japanese expedition attempting Gauri Sankar (23,440 ft.) in Nepal had apparently been lost; after three weeks of silence, however, word came through that the party was safe. It now appears, from a dispatch to the London *Times,* that the expedition was raided by armed Tibetan bandits, masquerading as border guards, who exacted money and provisions. As a result of this raid the expedition left the mountain without completing the projected reconnaissance of a route of ascent via the northern face.

An Italian engineer, Piero Ghiglione, with the help of a single native porter (not guide), succeeded last summer in climbing fourteen virgin peaks in the Peruvian Andes. He mentions eight of over 5000 m. (about 16,500 ft.), with attempts on two others of similar height. His object was to demonstrate that such ascents can be made by one with limited financial means and without the assistance of a regular expedition.

A group of Austrian mountaineers visited the Caucasus in August, 1959, and were cordially received by the Russians. Members of the group climbed the west peak of Elbruz (5629 m.), the highest summit of the Caucasus, and a rope of two made the traverse of the two peaks of Ushba (4737 m. and 4705 m.). This traverse, which was made under extremely bad weather conditions, required seven days, with six bivouacs. The Austrians were accompanied on the exploit by a rope of Russians, which included one woman.

Also last summer, ten French climbers made some fine ascents in the eastern Caucasus, including among others Shkhara, Kochtan Tau, Djangi Tau and a superb traverse of Dykh Tau (all of 5000 meters).

Another mass ascent of Muztagh Ata, in the Pamir, was made by a Chinese party of twenty-five men and eight women on July 7, 1959. (For the account of an earlier enterprise of this sort see APPALACHIA for June 1957, pp. 394-6.) The expedition spent two weeks preparing the base camp and two higher camps; the actual ascent, upon which forty-seven persons (thirty-six men and eleven women) started, then required six days, which included the placing of two still higher camps. According to an account supplied to the *Alpine Journal* (November 1959, pp. 258-9), by the time Camp IV had been established the party had been reduced to thirty-six. "The climbers set out on the last 346-meter stretch from Camp IV at 11.15 a.m. on July 7. A rest was necessary after every ten minutes. Even the strongest had to pause twenty times to rest before they completed the last 150 meters. At the 7500-meter mark, only 46 meters under the summit, deputy leader Yuan Yang suffered from the rarity of the air and she too descended on doctor's orders, accompanied by two climbers. This left thirty-three members who finally reached the top. The first group reached the summit at 6.20 p.m., Peking time. The temperature was 22°C. below zero (–8°F.) on the summit. As a metal box containing details of the ascent was buried under a cairn, Chung Chen lifted high the national flag. A newsreel was shot by Shih Chan-chun [the leader of the expedition], as the two cameramen who had been with them were unable to reach the top due to high-altitude dizziness." The Chinese claim that with this ascent their women have snatched the world's altitude record from Mme. Claude Kogan, who perished in the Himalaya last October, but this claim the *Alpine Journal* rejects, pointing out that the Chinese have not only exaggerated the height of Muztagh Ata (making it 24,758 feet instead of the 24,388 feet determined by the Survey of India), but that they have not credited Mme. Kogan with the full height which she undoubtedly reached on Cho Oyu in 1954.

The Eiger North Wall has now stirred up some trouble of a further sort, not unknown to the history of mountaineering. (Dr. Cook on Mt. McKinley, for instance!). Three parties claimed to have made ascents of the wall last summer, whereupon the claim of one of them—two young Swiss from Basel, who announced the remarkably short time of twenty-two hours—was challenged by two well-known German climbers from Munich, on the ground that the published photographs were not taken from the places alleged. Thereupon the Basel Section of the Swiss Alpine Club held an investigation, at which two other alpinists, who had climbed the wall two weeks later in thirty-three hours, were allowed to cross-examine the suspects. After a six-hour session the investigating committee terminated the proceedings and issued a noncommittal statement to the press, saying that they were unable to determine whether the two young men had in fact made the ascent or not: there was no visual evidence that they had, or had not, done so, as the climb had been made in thick mist throughout, and the comparison of photos gave inconclusive results. The suspected men threatened to bring an action for defamation of character against their challengers.

This coming summer six members of the Cambridge University Explorers Club plan to travel in two Land Rovers (British equivalents of our jeeps) from Tierra del Fuego to Alaska, a distance of nearly 25,000 miles and the longest possible south-north overland route in the world. The most difficult part of the course is expected to be a stretch of 250 miles in Colombia and Panama, where the Pan-American Highway has not yet been constructed and there are fourteen rivers to cross. The object of the expedition is to make a comparative study of animal husbandry in the countries traversed. At Lake Titicaca in Peru the party hope, with the aid of skin-diving equipment, to examine some of the sunken villages. (London *Times*.)

Accidents. The Mountain Patrol of the Bavarian Red Cross, in making a report of accidents in the Bavarian Alps during the six months' period of April to September (inclusive), 1959, notes that there were only twenty-nine fatalities as against thirty-three during the corresponding period of the previous year, but ascribes this solely to the prevalence of better weather conditions and not at all to any improvement in the equipment or caution of the climbers—for, it points out, in other regions of the Alps the number of fatal accidents increased. The report further remarks that a new danger has now arisen in that certain irresponsible persons have taken to knocking out the pitons on well-known routes and even, at times, to knocking away the indispensable holds on certain key pitches. [This last is asserted "on report" only, and seems well-nigh incredible.]

A type of incipient accident, and its prevention, of which we are perhaps inclined to speak with a smile, as belonging to the realm of the imaginary, actually occurred on the Dent Blanche last summer. As a rope of three young Swiss climbers from Geneva were descending the narrow Ferpècle Ridge, the first man slipped and promptly pulled the second after him. But the third man, twenty-year-old Claude Demolière, grasping the situation in a flash, instantly threw himself over the other side of the ridge and thus arrested the fall of his comrades. Demolière himself, however, fell free until suddenly checked by the rope, whereupon he was flung back against the rocks of the ridge, sustaining severe injuries from which he died two days later. *Die Alpen* (October 1959, p. 220) well signalizes this as a case of true heroism, as well as remarkable presence of mind.

In the Antarctic, last November, a Snocat containing two geologists and an army lieutenant fell 100 feet down into a crevasse 9 feet wide, according to the London *Times*. The men were trapped for more than twenty hours, in temperatures below zero, before being found by a search party. The two geologists could be rescued alive, but the lieutenant had been killed. A United States airplane and helicopter with a doctor flew to the rescue.

Miscellany. The Swiss glaciers are continuing to recede, according to a report of the Glaciers Commission for the glacial year 1957-8. The average decrease in length for that year was 48 feet, as against 30 feet for the previous year, and there was also a reduction in mass. The Commission is even more pessimistic about the probable results of the present year's measurements, as the summer of 1959 was abnormally dry. This recession has now been going on for many years; comparing a map of 1876 with one of 1934, a prominent glaciologist has calculated that in this period of fifty-eight years the glaciers lost 14.8 percent of their area, or over 68,000 acres. (London *Times*.)

The projected automobile tunnel under the Great St. Bernard Pass, to which reference has several times been made in these notes, is now becoming an actuality, as work has been in progress for over a year. Connected with the construction of this tunnel, no doubt, is the news carried by the *Corriere della Sera* of Milan (September 12, 1959) that the celebrated hospice on the summit of the pass, which since the year 1050 has busied itself with the rescue of pilgrims and other travelers, will now alter its character. It will cease to function as a secular place of refuge and will become a "Catholic center of mountaineering", designed to prepare young alpinists and guides spiritually for facing the difficulties and dangers of high ascents. The famous St. Bernard dogs will remain, but merely as symbols of the purpose of the hospice in former ages; as a matter of fact, their role as rescuers has amounted to very little in recent years.

WINTER CLIMBING

The winter climbing program of the Appalachian Mountain Club for the season 1959-1960 may be considered a success, both as to ascents made and number of climbers participating. The program was carefully planned to consist of two introductory trips followed by six tours of increasing difficulty and interest. Some of these trips were to shelters and cabins, but most required tent camping.

The first trip, based at the Wonalancet Cabin, was attended by twenty-three persons. The purpose of this trip, and also of the following one, was to allow climbers to become familiar with their equipment, particularly the vagaries of snowshoes. Despite the lack of snow, or perhaps because of it, ascents by this group included Mts. Whiteface, Passaconaway, Paugus, Willey, Field, Tom, Clinton and Middle Carter.

Again twenty-three hardy souls packed into Carter Notch two weeks later, anticipating ascents of Carter Dome and Wildcat. Snowshoe troubles slowed the group considerably on the way in, and in this respect much valuable knowledge was acquired by the participants. Due to the compact size of the shelter room at the hut, only six persons slept there, the remainder camping in tents. Most of these people were having their first experience with winter camping, and a wet one it was. Heavy rain during the night and the following morning forced the group's retreat to Pinkham Notch Camp and hot coffee.[1]

The Mt. Isolation trip scheduled for January 16 was meant to be an easy "examination" for those eager souls who survived the introductory trips. It turned out to be a humdinger. The weather forecast for the weekend was, briefly, "intense cold, winds of gale force". In spite of this, an advance party of seven persons left Rte. 16 at 10.00 a.m., followed two hours later by a group of six. After a quick lunch at Rocky Branch Shelter No. 2, the first group erected their tents and left to work out a direct route to the summit of Mt. Isolation.

At this time the temperature was 1°F. and the wind so violent that it could not be directly faced. After breaking trail halfway to the summit and plotting the remainder of the ascent the group returned to the shelter to find the second party in possession. Two two-man Army tents were erected within the shelter itself, which protected them somewhat from the force of the winds, and other two- and four-man tents were placed in sheltered spots nearby.

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[1] Iris Baird writes as follows: At Carter Notch, after surveying the soggy weather Sunday morning and reaching several gloomy conclusions about its persistence and probable effect on the stream crossings, Bill and I revised our menu plans, ate lunch, struck camp, and departed. Each stream we came to confirmed our suspicions though all were passable except the Aqueduct turn-off: an unbroken sheet of water pouring over the dam replaced the narrow but firm snowbridge of the previous day. Regretfully we concluded that the longest way round was likely to be the driest way home and continued down the Nineteen-Mile Brook Trail. At one large stream crossing Bill miscalculated the area of a rock and stepped through the slush into two feet of water, catching his snowshoe firmly—and apparently permanently—under the ice. I chopped vigorously with my trusty ice-axe and finally fished him out. We proceeded without further incident to the road, the car, dry clothes, and breakfast in Gorham.

After passing a (believe it or not) comfortable night, punctuated by the collapse of only one tent, nine persons arose at dawn for the summit assault. The rest of the group preferred the warmth of their sleeping-bags to any glory that might be acquired. The wind, if anything, had increased in intensity; the cold remained bitter. Crossing open knolls the party, forced to advance directly into the wind, adopted various bizarre crouching methods of locomotion. Frostbitten cheeks were evident. Face-masks and balaclavas, those vital and rarely used items, were possessed by few and regretted by many.

Above timberline the wind was extreme. One climber, wearing a pack containing emergency gear, was picked up and literally blown to the summit. The only woman in the group was whirled into a bed of small evergreens from which she had trouble extricating herself. No one lingered to enjoy the view. Anyway, due to blowing snow there was none.

A hasty retreat was made and a state of emergency declared when it was discovered that a snowshoe rim had been fractured in five places by the summit buffeting. This was quickly reinforced with gear from the repair kit and with careful use lasted until the end of the trip. *Nota bene:* you don't need a repair kit often, but when you do you'd better have one.

Noon found all back at the shelter, and after a chilly lunch camp was broken. By 4.00 p.m. all climbers had reached the road. It is believed that this is a first winter ascent of Mt. Isolation. Whether so or not, it was a great climb.

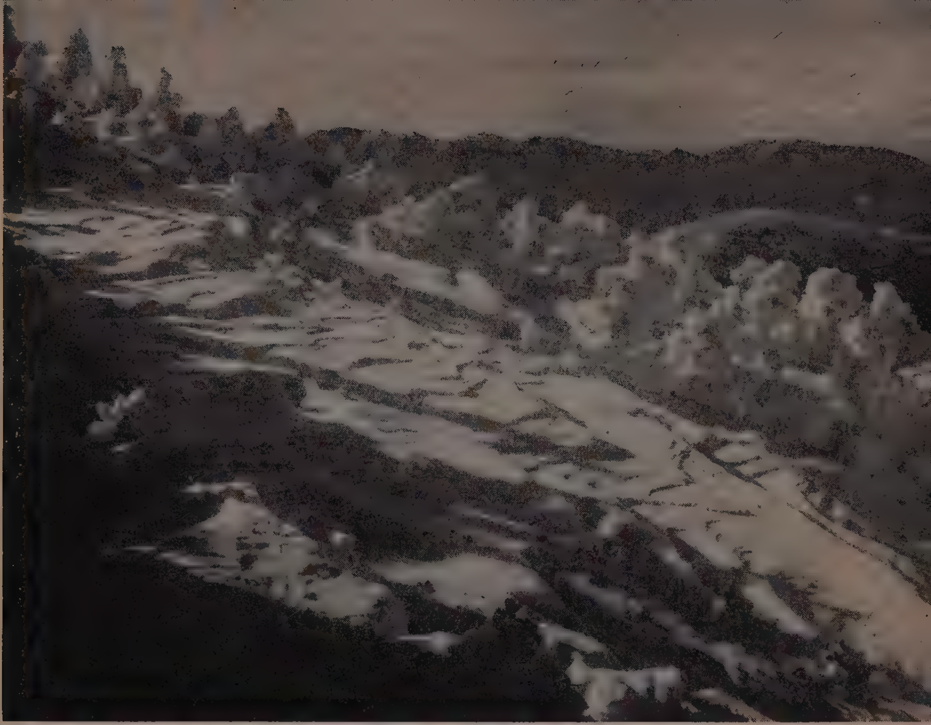
The Southern Peaks trip, two weeks later, was notable for the perfection of the weather. Six experienced snowshoers started up the Crawford Path at 10.00 a.m. and by 4.00 had reached the junction of the Edmands Path, their chosen line of retreat in case of bad weather, where they camped for the night. They climbed Mts. Clinton and Pleasant on the way, and wallowed vocally in the evergreens in the col between the two peaks. The night was very clear and the alpine glow on the Presidentials could be seen as far north as Mt. Jefferson. Sunday morning dawned clear and windless and, leaving their snowshoes behind, the group set off for Mt. Washington via the summits of Mts. Franklin and Monroe. After a brief rest in the deep leather armchairs of the Observatory they retraced their path over the summits, picked up their packs and set off down the Crawford Path to the highway.

The next trip on the schedule was slated for Mt. Moosilauke. This was to be an easy climb to the D.O.C. cabin, where six of the party slept (the others camping in tents), with exploration of the open summit on the following day. However, again the weather intervened to make a straightforward climbing trip a hair-raising adventure. The temperature was mild; the wind was violent.

The trip leader decided to cancel exploration plans and descend immediately on Sunday morning. By 8.30 a.m. the last climber had left the cabin, heading for timberline a short distance away. When the group staggered into the shelter of some small scrub it was discovered that there was a climber missing! After a brief consultation the whole party returned to the cabin and the two strongest climbers set out to search for the missing youth. Reasoning that if he reached timberline he would be safe (he was carrying a sleeping-bag and food), they minutely searched the open summit of Moosilauke, criss-crossing it methodically for four long hours despite the increasing fury of the wind. They found no one. One of the searchers remarked later that by the time he returned to the cabin his outer garments were frozen stiff with ice. It was now decided to descend with the whole group and return if necessary with a large search party. Naturally it was hoped they would find the missing climber, Michael Edesess, age 16, waiting for them at the bottom.

At this point four of the climbers refused point blank to face the howling wind and remained in the cabin with extra food and fuel, hoping to descend the following morning in more clement weather. The rest of the group reached their cars at dusk and were delighted to see young Michael. And now let him tell his story:

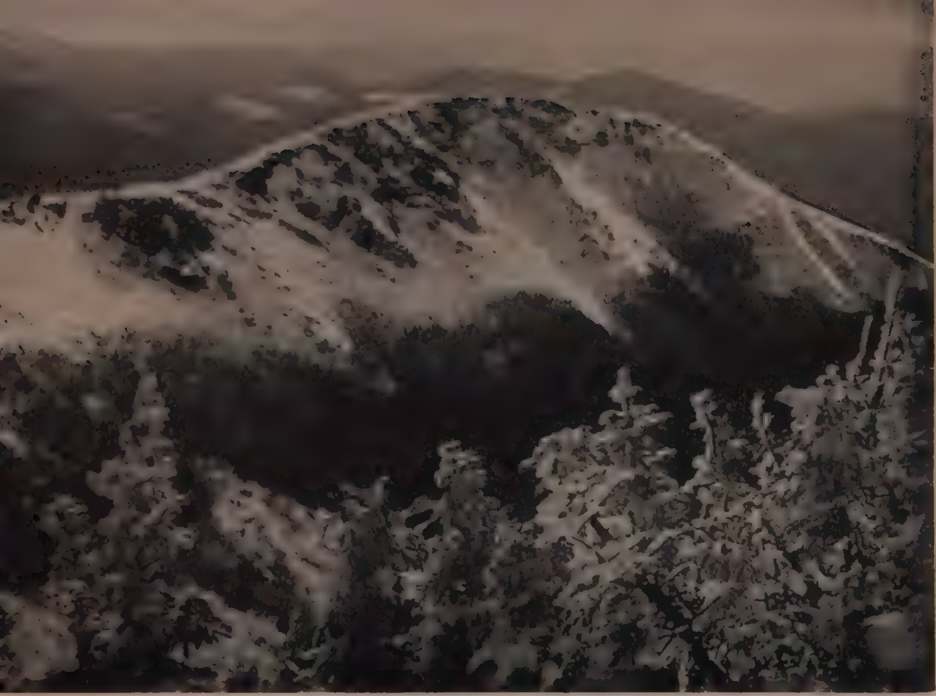
> Leaving the cabin, we headed in the direction of the Carriage Road and the Glencliff Trail. At this time the crest of the ridge was about 100 yards away to our right and the wind was blowing hard from right to left (S.E.). I was managing to walk along pretty well with the help of my ski-pole, since I could lean into the wind while resting on the pole; it was a matter of keeping just the right balance. At one point a climber directly in front of me somehow got slightly off balance and ended up being blown on an involuntary expedition about 25 feet off the trail before he could regain control of himself and get back on course.
>
> After about five or ten minutes of walking I suffered a great inconvenience in that one of my snowshoes suddenly came off. Beside the regular snowshoe binding, it had a thin strap which was tied around my ankle so that the snowshoe couldn't be lost if the binding came off. This strap was still attached to my foot, so that the snowshoe was neither on nor off. I took off my mitts and tried to fix the binding, but the wind kept twisting the snowshoe out of line with my foot and I couldn't manage to hold the snowshoe and tie it at the same time. So I finally took the ankle strap off and carried the snowshoe under my arm.
>
> During the maneuvers of fiddling with the snowshoe I had worked myself over a few feet onto what seemed to be ice much more slippery than I had been on previously. Besides, the snowshoe I was carrying in my arm was acting as a sail, and the boot from which I had taken the snowshoe was much more slippery than the snowshoe had been. All in all I couldn't expect to have so easy a time as before of walking across the ice. Nevertheless, I attempted to set out in the direction of the trail, but I was only blown more and more off course. Here I began to wonder where everybody else was and, seeing no one in front of me for the fifty or so feet of visibility, I turned my head and was quite unnerved to see that no one was behind me, either. Still I had a streak of confidence in that I was, as always, forging ahead on my own power. I was walking in the wrong direction, it is true, but at least I wasn't being blown outright.



NEAR THE SUMMIT OF SOUTH TWIN, FEBRUARY 1960

Photos by Miriam Underhill

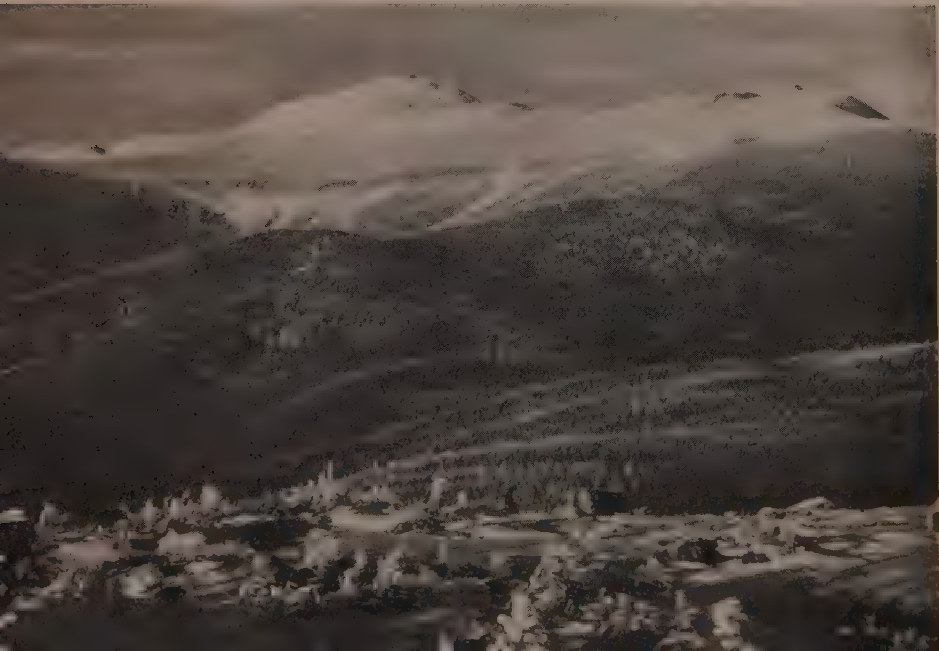
NEAR THE SUMMIT OF HANCOCK, MARCH 1960



BONDCLIFF FROM WEST BOND, MARCH 1960

Photos by Miriam Underhill

WASHINGTON FROM ISOLATION, JANUARY 1960



After I had been walking for about one minute in a course about twenty degrees too far left, I began to lose hope of rejoining the party this way. So, finding it impossible to walk upright in the direction I wished to go, I got down and started crawling toward the right and toward the top of the ridge. The ground under me was very icy and my knees slipped. Now I was sprawled out and the wind started blowing me downhill. Things weren't getting any better. Before I gained too much velocity I managed to grab hold of the branch of a small scrub bush and stop myself for the time being. The slope was steeper here and just as icy. As before, I couldn't go where I wanted to, so I just sat there. After awhile, of course, I began to panic. But this struck me as more interesting than serious. I thought to myself, "So this is what a good panic feels like". I got over it soon, after I had yelled some, although I was sure no one could hear me.

Hanging onto the branch of scrub was getting tiring. I thought my situation over for a little while, during which I still had, strangely, an overwhelming feeling of confidence I could not stifle even with thoughts of people who had died like this. I was certain that I was located just above the headwall of the ravine of Gorge Brook. I had climbed the mountain through this ravine two summers ago, and remembered no cliffs or any like hazards there. Thus I considered a slide into this ravine relatively safe. So, especially since it was impossible to do anything else, I made the momentous decision to let go and slide on down. Though this slide probably took only a few seconds it seemed like quite a while. I tried to proceed slowly by shoving my ski pole into the ground, but I couldn't get it an eighth of an inch into the hard ice. Eventually I had to let go of it and leave it above me on the slope, as I left both snowshoes and one mitt, too, along the way. As I slid, I approached and passed numerous scrub bushes, many of which I found myself headed straight for. When this happened I would brace myself for a collision, then ram right through them harmlessly.

Sooner or later I passed out of the wind, the ice began to soften and became light snow, and I was below timberline. As the sliding seemed a good way to travel I continued to avalanche down with little snowslides on the headwall of the little ravine. After awhile I came to my feet and took stock of what I was missing. I remembered the acts of losing the ski-pole and the snowshoe I had been carrying, but the losses of the snowshoe on my foot and of the mitt were news to me. Also I had several rips in the very strong material of my parka, showing the effects probably of the scrub. I then proceeded to follow a brook, at the source of which I had just arrived. I had no cares now except for worrying about all those in the party that I must have left dumbfounded above. Convinced that I was following Gorge Brook, I expected to find the Ravine Lodge at the end of the ravine. When I reached the outlet of the ravine only to find more woods in a large valley running left and right, I was discomposed enough to stop for awhile and eat lunch.

Eventually, however, I continued, following to the right a larger river to which the brook was tributary, on in a downward direction. The bank of this river soon turned into a wide trail or perhaps a logging road, and I came upon a marker indicating the name of the trail. Seeing that it was the Tunnel Brook Trail, I took out my map, and was forced to make such a reorientation of the picture I had had in my mind of my position that I nearly became dizzy. I continued on and after about a mile or two arrived at a logging camp which two woodsmen were busy preparing for future occupation.

> They told me the time was only 12 noon, and one of them drove me to the nearest phone, in Benton. I called George Hamilton at Pinkham Notch and the local forest ranger, Ken Sutherland, at Plymouth, figuring to call off any alarm if there should be one. Then I walked up the road to Center Haverhill, where a resident, Mr. Roy Gregory, advised me that the base of the trail on which the rest of my party was to descend was about twelve miles away by road. He kindly offered to drive me there himself, and three other members of his family came for the ride. I found no one yet down from the mountain at about 4 o'clock, so I went to the home of the local forest warden and waited. I felt very guilty about the fact that I had gotten down in so short a time while the others were, on account of me, more than four hours late and very much put upon. But they all showed up at about 6 o'clock and didn't look too unhappy.

Washington's Birthday, a three-day weekend this year, saw eight climbers set off on the long haul up the Zealand road, their ultimate goal Mts. Bond and West Bond. In the process of capturing these summits they would also climb Mts. Zealand and Guyot. Heavy snow slowed progress on Saturday, so that the planned campsite on Zealand Ridge was not attained; but that evening found the party at the Hut, where the cry was early to bed and early to rise at 3.50 a.m. and a long day ahead! The unfavorable snow conditions prompted the climbers to carry their camping gear to their proposed campsite in case of continued slow going. This high camp would also place them in a favorable assault position in case inclement weather above timberline postponed the summit attempt until the following day. As the climbers gained altitude they found the snow more consolidated, trail-breaking easier, and their speed much faster than anticipated. Because of this and the early start, the group crossed over windy, slippery Guyot and were on the summit of Mt. Bond by 1.00 p.m., checking off West Bond less than an hour later. The day was cloudy and views limited until later that afternoon, when spectacular vistas opened up from Mt. Guyot and Mt. Zealand. Arriving at Zealand Ridge ahead of schedule, they picked up their packs and spent another night in the plush comforts of Zealand Hut. The next day took them back to the road and home.

The successful assault on North and South Hancock was a cause for high spirit and revelry. Careful planning led to a clockwork-like ascent of the peaks, and the details of such careful planning are worth mention.

During the summer and fall of 1959 a trail was partially cut and completely marked from the summit of North Hancock to that of South Hancock. A few months later a food cache was placed at a predetermined campsite. This cache contained, among other things, a tin of ham and a saw to cut it with (the ham would probably be frozen). The saw was covered with vaseline to keep it from rusting. The cache was adequately bear-and-squirrel-proofed.

The climbers were divided into two parties. One group started in the Kancamagus Highway on Thursday, March 3, and broke trail through the heavy snow to the base of the mountain. The second group made the trip in one day, Saturday, and led the summit attempt the next day.

At 6.30 a.m. on Sunday Group No. 2 set out up the brookbed of the North Hancock Branch to the 1000-ft. slide on Mt. Hancock, the chosen route of ascent. Group No. 1, from a camp farther down the trail, followed two hours later. The snow was firm and not too deep. There were ice cliffs in the middle of the slide, but these were easily avoided. In places the snow-cover over base rock and ice was thin and the footing tricky. A few ice-steps had to be cut and many steps were whacked through the crusty snow. Snowshoes were carried, as they would be needed for the traverse to South Hancock.

The summit was almost completely snowcovered, with a few treetops poking through here and there. The sky was overcast and views poor, although Carrigain stood out majestically.

The traverse to South Hancock was uncomfortable, as vegetation was dense. The trail was lost, then found again just as it turned into a three-foot high tunnel of over-lapping branches. This was a wet wallow, and sighs of relief were heard when at last the woods opened up and the second summit soon reached.

Group No. 2 were back in camp at 1.30, where a decision had to be made. The choice: a long walk out to their cars, or a comfortable afternoon in the sack. They decided quickly; tore off their wet clothing, lit two stoves, and consumed vast quantities of tea and cocoa while their clothes dried.

This was a true alpine expedition.

The final trip of the season, to Franconia Notch, suffered from poor weather. An ascent was made of Mt. Lafayette, but conditions were too poor to continue across the ridge.

To the leaders of these trips, Robert L. Collin, Richard Judy, Albert Robertson and David Sanderson, must go much of the credit for the great success of the program. Not counting peaks climbed on the two beginners' trips, twelve 4000-footers were ascended, a fine record of achievement.

NANCY W. COLLIN

ROCK CLIMBING

New Climbs on Cathedral Ledge. A. To the left of the ordinary route on Cathedral Ledge is a deep cleft, and beyond this a steep buttress characterized by an overhanging crack at the bottom and a prominent yellow groove towards the top. This buttress may be seen well, in profile, from the ordinary route. A new route was made here on May 18, 1959, by J. M. Turner and R. Wilmott (Canadian Mountain Club, Montreal). The first two pitches had been climbed two days previously by Dr. M. W. Ward (Alpine Club, London) and J. M. Turner. The climb was named "Recompense", and is both difficult and spectacular; the difficulties are slightly less extreme than those encountered on "Repentance" (APPALACHIA, December 1958, p. 256). No aid was taken from pitons, although several were used for belays and protection.

(1.) 100 ft. Start about 40 ft. right of the large overhanging crack. Climb a shallow groove containing some trees, until it is possible to step left onto an ascending ledge on the face. Follow this to the foot of a short wall, which is climbed to a ledge and piton belay on the left. The last few moves are rather trying.

(2.) 100 ft. (of ascent). Descend slightly to a good ledge on the left and follow the easiest line to a large pine tree almost directly above.

(3.) 100 ft. Scramble up and to the left into a short chimney, which finishes at the foot of the yellow groove. The groove is entered by jamming, and followed by a layback to a substantial bush.

(4.) 30 ft. The groove above leans to the right, and is laybacked. A *coin de bois* was used for protection and was left in place. Belay on a small ledge.

(5.) 30 ft. The crack above has possibilities, but is rather dirty. Instead, make a descending traverse right, into the adjacent groove, which is climbed to a birch tree. (Piton belay, left in place.)

(6.) 40 ft. Climb directly to a pine tree. From the ledge behind this, scramble to the top of the cliff.

B. On May 17, 1959, a direct start was made to what was at first believed to be Ray D'Arcy's climb but no signs of previous passage were encountered in the lower part of the route. The prominent crack about 20 ft. left of the ordinary route was climbed by two parties, J. M. Turner and R. Morden (A.C.C.), M. W. Ward and C. Lavallée (C.M.C.). This pitch is less difficult than it appears, but the complete absence of protection is a little discouraging. The climb continues directly upwards to a chimney penetrating the overhang, and reaches D'Arcy's route at the end of its traverse. The standard was thought to be easy fifth class throughout.

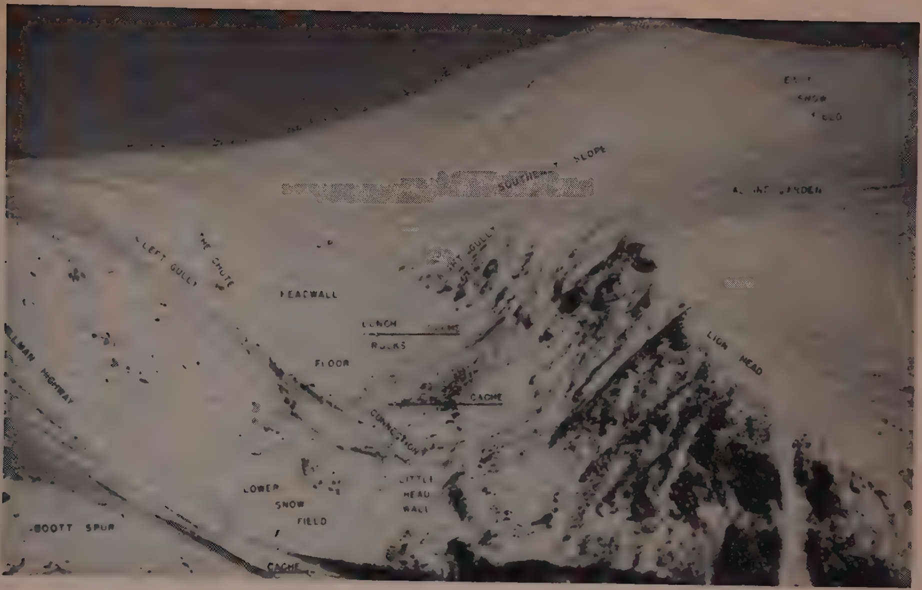
J. M. Turner

Climbing Ropes. The British Standards Institution has published British Standard 3104:1959, Nylon Mountaineering Ropes, which specifies four sizes of nylon rope from 1.25 lb. per 100 ft. to 5.5 lb. per 100 ft. The Standard defines tolerances on weight and length, minimum breaking loads and extension, flexibility, stability and construction. It has been compiled by a committee of the B.S.I. representing rope manufacturers, mountaineers and service departments.

Frank Solari

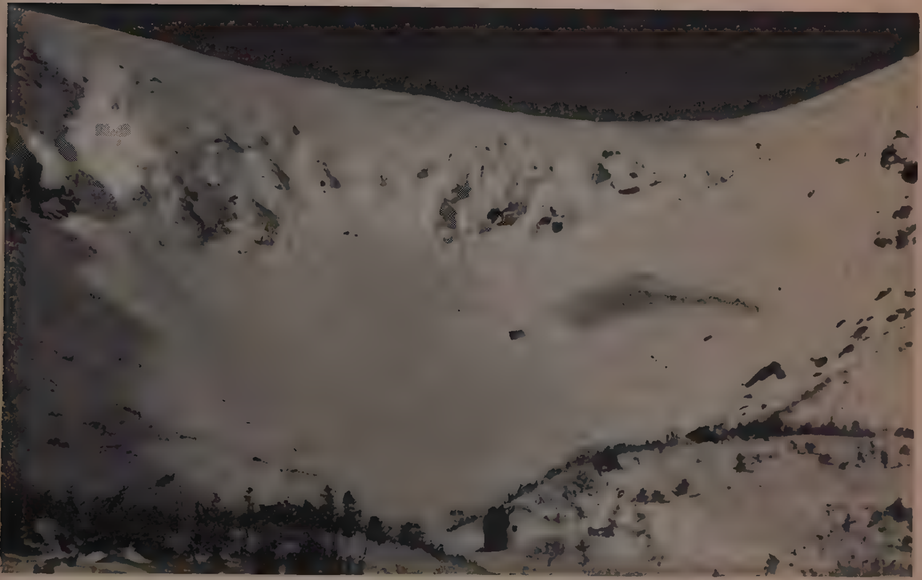
Climbing at Mohonk. We give herewith the current regulations governing rock climbing at Lake Mohonk, New York. (See the article earlier in this issue on climbing in the Shawangunks.) These regulations have been worked out by the property owners, the Smiley Brothers, in consultation with representatives of the clubs which regularly climb in the Shawangunks—namely, the New York Chapter of the A.M.C., the Harvard and Yale Mountaineering Clubs, the Alfred, Cornell, M.I.T., Princeton and R.P.I. Outing Clubs, and the Intercollegiate Outing Club Association. The object of the regulations is, first of all, to reduce as far as possible the likelihood of accidents, both for the sake of the climbers themselves and because such accidents can increase the insurance charges of the owners, even when no direct responsibility is involved; and secondly, to insure the preservation of Mohonk as a nature preserve and private park. The present regulations went into effect on September 1, 1959, to hold in this form for one year.

Permit System. ROCK CLIMBING ON MOHONK PROPERTY WITHOUT A PERMIT IS PROHIBITED. Beginning September 1, 1959, the following system is in effect:



H. Bradford Washburn, Jr.

TUCKERMAN RAVINE AND THE SUMMIT



Leavitt Bowie

DANGEROUS ICE ON THE LIP

Fracture line of slab avalanche at right

Leavitt Bowie

ICE SHOT DOWN BY RIFLE FIRE

Leavitt Bowie

OPERATING THE MACHINE GUN

and May, along the upper edge of the headwall, and now and then a large block will let go. Last year we tried shooting down this ice but the 8-gauge industrial gun (ordinarily used for such jobs as shooting spikes into masonry) which we had, with a maximum range of 300 yards, was not adequate for a good job. This winter, however, the Army has lent us a Browning .50-caliber machine gun with an effective range of 1½ miles. We can't actually shoot so far because we can't see at that distance, but at the range we use, about one-third mile, this gun proved very effective indeed, and we have kept the ice trimmed down well. We generally shoot from the Connection Cache or from the Leve Rock which is halfway between the Lunch Rocks and the Connection Cache. This procedure is for the control of falling ice, not avalanches, but it happened once last year that the rifles which we were then using brought down a block of ice which in turn set off a small avalanche—but this was a lucky accident.

RICHARD S. GOODRICH, *District Ranger*

ACCIDENTS AND RESCUES

Two men at Madison Hut, December 27-31, 1959. At about 2 p.m. on the afternoon of Wednesday, December 30, I received a telephone call from Mr. Maurice Bonier of 38 Carroll Street, Watertown, Mass. He informed me that his son and a companion had left home Saturday, December 26, for a climbing and camping trip in the White Mountains somewhere around Mts. Madison or Adams. Not having received an expected telephone call from his son by noon on Wednesday as previously arranged, Mr. Bonier asked if I could check on the boys in some manner.

Within half an hour I had contacted both Ranger Richard S. Goodrich of the U.S. Forest Service and Conservation Officer Paul T. Doherty of the N. H. Fish and Game Department. They inquired around Randolph and found that these two, Richard J. Bonier (27) of Watertown and Harold C. Karagozian (25) of Cambridge, Mass., had left the Boothman farm at Randolph on Sunday, December 27, for the Madison Huts by the Air Line. Goodrich decided to send a search party the next morning up the Valley Way to the Huts to check on them. I told him I could procure the necessary climbers for the trip. Accordingly, the next morning at 6.30 a.m. I appeared at the Ranger's office with Bob Prescott, former hutmaster at Pinkham Notch Camp and currently working at the Mt. Washington Observatory, Jim Hainer, an old hutman on vacation from college, and Nick Prentiss, another old hutman also on school vacation.

Equipped with a portable two-way radio, these three started up the Valley Way on snowshoes at 7.20, while Goodrich, his assistant Henry Swan, Paul Doherty and I established H.Q. at Jack Boothman's house. Frequent contacts via radio with the climbers soon established the fact that the snowshoeing was extremely slow, as they had heavy trail-breaking after the snowfalls of Monday and Tuesday, and that they did not expect to arrive at the Madison Huts until early afternoon. Ranger Goodrich decided to prepare for a long search in case the missing men were not at the Huts. He solicited two young, strong climbers vacationing in Randolph who knew the mountains well, Chris Goetze and Bob

Underhill, to climb up the slopes of Mt. Adams to check the Log Cabin, Perch and Gray Knob. By talking with climbers who had come down from Crag Camp on Wednesday, we established that the missing men were not there. Both Goodrich and Doherty notified their headquarters of the situation and undertook the necessary steps preliminary to organizing a widespread search if it should be necessary.

At approximately 3 p.m., after more than seven and one-half hours of climbing, the search team reached Madison Huts and found the two overdue hikers. They said they were waiting for someone to come and get them, and intended to wait until Saturday before attempting to come out by themselves, down the Air Line. They were ordered by radio to start down with the rescue team even though they had no snowshoes. Bill Hastings, Jack Boothman and I started up the trail at 3.30 p.m., carrying extra snowshoes, lights and hot coffee, to meet the down-coming hikers. We met them shortly after 5 p.m. just below halfway, or almost two miles up the trail. We all arrived back at Boothman's farm about 6.30 p.m.

The story of Bonier and Karagozian was that they had left the Ravine House around 10 a.m. Sunday morning. They climbed to Madison Huts by the Air Line and did not arrive there until 8 p.m., a climb of some ten hours—a long time, since this was before the snowfall, when walking was relatively easy. At Madison they stayed in old No. 2 building. It snowed on Monday and Tuesday and was cold and windy. By Tuesday afternoon their supply of fuel was running low, so they decided to break into the main hut. They smashed the shutter on the back door, most of which they burned later on, and then broke through the back door and gained entry into the hut. They took all the lumber which we had carried up there for some repair jobs next summer and used it for firewood, used kerosene lanterns and some kerosene we had stored there. They were looking for food but found only some tea bags. They thought that no search party would be looking for them before Friday and resolved to wait until Saturday before trying to descend. They were surprised to see our group arrive on Thursday at mid-afternoon.

According to Conservation Officer Paul Doherty, he had met these two hikers around 1.30 p.m. Saturday afternoon on the Dolly Copp road, where they were looking for the beginning of the Daniel Webster Scout Trail to Mt. Madison. Doherty pointed out to them that it was too late in the day for such a climb and, noting that they had no snowshoes, he told them that they were ill-equipped for winter climbing. Doherty further stated that the Madison Huts were no place for a prolonged stay in winter and advised their going to the R.M.C. Crag Camp on Adams Spur. After that, the two greenhorns spent Saturday night at Lowe's cabins in Randolph. Sunday morning Gordon Lowe attempted to dissuade them from going to Madison for the same reasons Doherty had, but with no success. Thus these climbers had the benefit of sound advice from experienced persons who know the country, but took no heed.

On Saturday, January 2, I sent Bruce Sloat, Jim Hainer and Steve Howell to Madison to ascertain the damage done and to make a shutter to put on the back entrance. For this they carried up some spruce roofers on packboards. They found that the back door was entirely unrepairable. Four of the five flush toilets (which of course had been carefully drained when we closed the huts in September) had been used and were full of defecation—we shan't know until opening the huts in June whether or not the toilets have frozen and broken. Two bundles of new cedar shingles were burned for firewood and five others carried from the main hut to No. 2 and opened. We shall have to pack up and install a new door for the kitchen; paint and hardware accessories for the door must go up; new lumber for the water-tank cover and more cedar shingles will also have to be packed up the mountain. Bills have been rendered to the climbers for the time and labor of the men sent to repair the damage and for the replacement of materials destroyed. No charge was made for the time and trouble of all the busy men who took part in this needless search.

These climbers wrote a journal in the hut registration book which establishes clearly that they were in no such state of mental composure as their later account given to the newspapers managed to suggest. It may be true that some of the journal was written with tongue in cheek, and no doubt vivid imaginations accounted for some of the statements set down. For example, they referred frequently to the weather conditions—wind velocity, minimum temperatures and snowfall. Actual figures from the Observatory on Mt. Washington show that they exaggerated.

The morning after their arrival at the Madison Huts, noting the approach of bad weather, they should have set out at once to descend to the valley, which they could have done easily and quickly even without snowshoes. And they should have gone down by the Valley Way, a shorter, more sheltered, and safer route in a storm than the Air Line by which they went up. But although they had with them a map of the area they evidently could not read the contour lines or in general interpret the map. They ignored the Valley Way—they did not know how steep it was or even how to reach it.

There can be no doubt that even though they called themselves "experienced hikers", they were not qualified for such a trip. They were ill-equipped; they were much disturbed by the situation they found themselves in; they were not tough physically or temperamentally.

GEORGE T. HAMILTON

The Sailor and the Mine. In 1959 there were fewer cases than usual of search and rescue in the White Mountains. There were the usual summer cases of hikers overdue, the ill-fated climb on the cliffs of Cannon Mountain, a serious hunting accident on Mt. Adams and the ever-present cases of lost hunters. In general, however, 1959 was not a bad year as far as search and rescue were concerned.

An affair in the vicinity of the Northern Peaks worthy of an account is the case of the missing sailor and the Mascot Lead Mine in Gorham. Inasmuch as members of the Appalachian Mountain Club were involved I feel that readers of APPALACHIA might be interested.

It all began on September 27 when several youngsters playing in the vicinity of the long-abandoned Mascot Lead Mine, in Gorham, found a roughly constructed lean-to. Inside they found a sleeping-bag, leather boots, canteen, knife, cooking gear, items of clothing as well as food.

Everything was wet and covered with mildew, indicating that it had been there for some time. Also found were several boxes of rifle shells, but no rifle, and a Boy Scout handbook on outdoor living.

The book they brought to me. I found a name and address inside the cover and after a talk with Gorham Police Chief Anthony Dooen it was decided to telephone the police in the town of Fayson Lakes, N. J.

Chief Dooen learned that the name inside the book, Charles H. McIntyre, was that of a U.S. Navy man who was listed as a deserter. His station of duty was the St. Albans Naval Hospital in Queens, New York City, where he was a medical hospitalman. The Navy had him listed as AWOL as of August 13, 1959.

A telephone conversation with his father brought to light the facts that he had purchased much camping gear and a rifle, and was very much interested in old mines and caves. Also, that he had planned to desert and go to Canada.

The next day I went to the old Lead Mine accompanied by Conservation Officer William Hastings, Rangers Richard Goodrich, Henry Swan and Leavitt Bowie of the U.S. Forest Service, George Hamilton, A.M.C. Huts Manager, and George Webb of the Gorham Police Department. A search of the general area was made, Mascot Pond shoreline covered and the old mine entered.

Inside the mine we found conditions to be very dangerous. The mine, abandoned some eighty years, presented quite a problem from the search standpoint. Sections had caved in, timbers were gone or in a bad state of decay, the several vertical shafts dropped away to unknown depths. Our powerful searchlights could not penetrate the darkness to the bottom.

At the top of what we thought to be the deepest shaft we found a piece of rope hanging down into the shaft. We could not reach the rope, as it was across the opening, but the end hanging down in the shaft appeared to be broken, a fresh break.

Everyone thought as I did, I guess, that our missing sailor was down at the bottom of the mine—that the rope had broken and he had fallen to the bottom. As several weeks had passed since he was last seen, and considering the condition of his camping gear, one thing was certain: if he was down there he was dead.

The next day I talked with an FBI agent. I also talked with my boss, Bernard S. Cram, Chief of Conservation Officers, and advised him that I wanted skilled rock climbers to search the depths of the mine. It was my feeling that this task required someone with technical skill, and that the operation should be carried out in a way to insure the safety of all those who took part.

I got the go-ahead signal and at once called William Putnam of Springfield, Mass. Bill is well known to many A.M.C. members and is recognized as one of the country's leading mountaineers. I asked him to bring at least one other climber with him. I also discussed the problem at length with Mr. and Mrs. R. L. M. Underhill, of Randolph.

Bill arrived that night with Spencer Wright of North Swanzey, N. H., and plans were put together for an all-out search the following day.

We left the Gorham Motel early the next morning. The party consisted of Putnam, Wright, Hamilton, Bob and Miriam Underhill of the A.M.C., Goodrich, Bowie and Swan of the U.S. Forest Service, Webb of the Gorham Police Department, Doherty, Hastings, Tasker, Lyon of the N. H. Fish and Game Department, plus others who chose to come along.

At the mine only a picked group was allowed underground. Putnam and Wright went down on ropes with the Underhills handling the lines from above. The entire mine was searched, the shafts, rooms, corridors. No trace of the missing sailor was found. When Bill Putnam said, "The buzzard's not down there", I closed the case as far as the Fish and Game Department, the sailor and the lead mine were concerned.

Two days later I located the missing rifle in a gunshop in Berlin. We also learned that the sailor had stayed in a motel in Gorham. The pieces in the puzzle now began to fit together. He, it now appeared, didn't like camping out all alone. He sold his rifle, the only piece of equipment he had with any real value, and told the man in the gunstore that he was going to Canada.

The case was closed as far as I was concerned. I no longer thought of him as being lost in the forest or victim of a shooting.

Several weeks later we learned that he was picked up by the police in Warren, Ohio.

PAUL DOHERTY, *Conservation Officer*

November in the White Mountains is deer-hunting season (in Coös, Grafton and Carroll Counties; in the southern part of the State the season is December 1-21). And an important time of year it is to most of the local inhabitants, to thousands of out-of-state hunters—and to the State treasury. (The Fish and Game Department receives about 65 percent of its total revenue from non-resident hunting licenses at $25 each. Resident hunting licenses at $3.50 each, fishing licenses, fines, etc., make up the balance. In addition, of course, many of the State's businesses benefit from the influx of so many "foreign" visitors.)

It's a good time for mountain climbers to think carefully before venturing into the hills. For eleven months of the year New Hampshire welcomes mountain climbers but in November the King is the Hunter. I do not question the fairness of this division; my point is merely that climbers should be made aware of the situation—more aware than many of them are.

True, hunters rarely go far from the roads, and thousands of them just walk along the roads and go nowhere else. But you can't count on them for this, for an occasional hunter may be met almost anywhere. On coming down from Carrigain one November, I rounded a curve in the trail and came face-to-face with a hunter, his rifle pointing at my throat. And in any case, in order to climb a mountain, the climber must brave at least twice the narrow strip of land close to a road.

That hunters should shoot each other seems to me fair play, for a man who himself goes out to hunt is aware of the dangers of the season. But among the city chaps there exist many misapprehensions. Let me correct a few: hunting is *not* prohibited on the National Forest—the Forest is, in fact, a very popular place for it; Sunday hunting is *not* prohibited and even in adjacent Maine, where it is, many of the hunting accidents and deaths occur on Sundays. While in theory children must have a licensed hunter with them, I think I read in the newspaper that a ten-year-old boy shot his ten-year-old friend while the two were hunting alone. There is no upper age limit. Old men in their eighties shuffle along the roads, their failing eyesight compensated for to some extent by telescopic sights on their rifles. The State of New Hampshire gives any resident over seventy his hunting license free. There are no requirements for physical condition. However, no person may hunt "while under the influence of intoxicating liquor".

Now that more and more people are climbing in the off-seasons, it would be pleasant if climbers could have a corridor—such as the Tuckerman Ravine Trail—to give them access to the deer-and-hunter-free heights. But this is hardly a workable idea. Moreover, while there are provisions in the law for setting aside areas for the protection of game animals, there are no provisions for doing the same for humans except in the case of the landowner who may post his own land. This makes it illegal for a hunter to shoot within 200 yards of an occupied house. For otherwise people near occupied houses do occasionally get shot at. I remember the case of a woman, hanging out clothes in her own backyard, who was mistaken for a deer—and who ever saw a deer hanging out clothes?

Perhaps George Hamilton could take climbers to timberline in an armored car, or we could have an aerial tramway to Crag Camp, to be used in November only. For climbers do climb in November. Crag Camp was occupied every weekend last November and on the last one, during the Thanksgiving holiday, I believe some fourteen persons stayed there. As four of these returned to the valley Sunday afternoon, the last in line, a lad of sixteen, was shot through the lung, the bullet missing the heart by half an inch. Due in large part to the prompt and intelligent action of the hunter in this case, the boy's life was saved—although the outcome was in suspense for several days—and he has made a fine recovery.

Admittedly the victim had made a tragically injudicious choice of clothing—a greenish-brown parka with the hood, pulled over his head, trimmed with long white fur. (Fluorescent "blaze-orange" or fluorescent "neon-red" are the recommended colors. Avoid yellow or any other shade approaching white.)

The law reads: "Any person who . . . negligently or carelessly shoots and wounds or kills any human being. . . ." Since the court found that the hunter in this case had reasonably felt sure that what he saw was a deer, he was found not guilty of negligence.

It's different with a moose. "No person shall, at any time, hunt, take . . . any moose, caribou or elk. . . ." There's no mention of negligence there. If you shoot a moose, no matter what you thought it was, you are in for trouble. A man did shoot a moose last fall, up in Dummer. Although this hunter drove south, aiming for the Massachusetts line as fast as he could, conservation and police officers were faster; he was caught in North Conway and fined the maximum. (May I suggest that a moose, to me, looks more like a deer than does a person?)

A friend of mine just told me that he had met some hunters. No luck, they moaned, not a deer in sight. And they hadn't even hit anything when they had "taken a couple of sound shots".

Miriam Underhill

TRAILS

New England Trail Conference Report on Trail Conditions. Because the annual meeting of the Conference occurred after the publication deadline for the June APPALACHIA, the following trail report is based on material submitted to the secretary by various trail-maintenance organizations during February. Although the material received is therefore incomplete, it is hoped that this information regarding specific trails may be of value to walkers planning trips during the 1960 season. They should take into account the fact that most of these reports describe trail conditions as of last summer or fall and do not, in most cases cannot, yet tell of damage caused by winter storms. Those desiring more complete information may secure from the secretary, for 15 cents, the 1960 edition of *New England Trails,* a summary of the trail reports given at the New England Trail Conference on April 2.

The Maine Appalachian Trail Club and its affiliates, which maintain the AT from Katahdin to Old Speck, have made an intensive effort to restore to standard a number of sections whose condition had become extremely poor. Work on many areas was completed and others were made at least passable. The following areas received particular emphasis in trail clearing: from Katahdin Stream Campground to Abol Bridge, with repainting from Abol Bridge to the outlet dam on Rainbow Lake; six miles of very bad trail in the Wadleigh Pond-Nahmakanta Lake area was recleared in mid-August; the trail has been recleared from Nahmakanta Lake to White Cap, with new routes made around several beaver flowages; the bad section in the Little Wilson area has been recleared to standard and paint-blazed; the closed Moxie Bald section is now announced as open, since it has been partly recleared, while the two-mile stretch yet to be done has been intensively paint-blazed and is passable with care; most of the blue-blazed Bigelow Range side-trail, formerly considered closed, was recleared except for about two miles near Cranberry Peak Pond; also gone over were the sections from Bigelow Village to the top of Sugarloaf, and from Orbeton Stream to Poplar Ridge Lean-to; the Frye Brook side of Baldpate was recleared and repainted. During 1960 it is hoped to complete clearing the sections not finished in 1959. Pine Island Camp plans to clear the trail over Bates Ridge, and the M.A.T.C. expects to reclear the Gulf Hagas side-trails, now considered closed, in mid-August.

In addition to all this trail work, the Maine Appalachian Trail Club has finished the Wadleigh Pond and Hurd Brook Lean-tos, thus completing the chain of lean-tos along the AT in Maine, and raising to fourteen the number of new lean-tos built during the past seven years. The Frye Brook Lean-to received a new roof last summer, and at least a couple more will be reroofed this summer.

The AT from Andover B Hill Road in Andover, Me., to the top of Rangeley Saddleback is maintained by the Bates Outing Club, which rotates work on its sections and last year recleared from the top of Saddleback to Highway 4, from Highway 17 to Highway 5, and on to Squirrel Rock Lean-to. All shelters are in good condition.

The Phillips Exeter Academy Outing Club reports that during 1959 it cleared a trail through the wreckage left by a lumbering operation on the lower reaches (up to the cairn on the open ledges at the fork in the trail) of its Tumbledown Mountain Trail midway between Byron and Weld, Maine. The rungs in both the chimney and the cave were secure. The Outing Club's annual trail-clearing expedition will go over the trail again this spring and do whatever work seems necessary.

In New Hampshire the Appalachian Mountain Club expects to continue its regular maintenance and standardizing on the 375 miles of trails it maintains in the White Mountains. The bridge at the start of the Webster Cliff Trail in Crawford Notch is out and will be replaced this summer. In the Great Gulf a new ten-man shelter near the old shelter, which is still in use, has been completed and is fully described in APPALACHIA XXXII (December 1959), pp. 565-567.

The Randolph Mountain Club's trails in and near Randolph, N. H., were left in good condition last fall, but there are no reports yet as to the damage done by the slides caused by last October's storm. In Cold River valley the eleven trails maintained by the Chatham Trails Association were all in good condition at the end of last August except for the eastern end of Eagle Cascade, which is not recommended for travel until after it has been cleared in July, 1960. The Roost Trail, which leaves Maine Route 113 in Hastings at the north end of the bridge over Evans Brook, has been newly put in commission and provides a fine ledge outlook for a short easy climb of 0.50 miles.

Trails in the Sandwich Range, maintained by the Wonalancet Out Door Club, are in good condition, except for the Sleeper Trail from Mt. Whiteface to Mt. Tripyramid, which was reported as obscure several years ago and has now been abandoned. An old trail over the Wonalancet Range has been reopened.

The Hutmen's Trail, about 2½ miles from N. H. Route 16 over the ridge between Wildcat and Spruce Mountains down to the Carter Notch road (signs at both ends) is in its usual excellent condition and will be given its annual May clearing. It passes through some fine woods, crosses several brooks, and has a number of good outlooks.

The Society for the Protection of New Hampshire Forests, which maintains, with some help from the New Hampshire Recreation Division, the trail system on Grand Monadnock and those around Lost River in North Woodstock, reports no new developments, only its usual maintenance work.

In Vermont the Green Mountain Club reports that it built a new Pico Camp in 1959. The Long Trail received its customary work in 1959 and will be maintained as usual in 1960. The Green Mountain National Forest reports its section of the Long Trail generally in good condition and the side-trails passable. Trails will be opened in the spring by maintenance crews, with further brushing and mowing of portions to be undertaken during the summer.

In Massachusetts the Appalachian Trail is in good condition, with the usual maintenance planned by the groups concerned. The relocation around Dalton is still incomplete, but the route is well marked. Little progress has been made on the project of building additional shelters on the AT in Massachusetts, but the Bureau of Recreation of the Massachusetts Division of Forests and Parks reports that plans are being worked on for an additional shelter on Mt. Greylock and one in the town of Mt. Washington near the AT. The Bureau of Recreation has tentative plans to connect the AT on Mt. Greylock with the Taconic Skyline Trail in Pittsfield Forest by another trail, and to erect an overnight shelter in the Pittsfield State Forest.

The Williams Outing Club, which maintains six trails in the Williamstown area and four on Mt. Greylock, published last summer the 4th edition of its *Trail Guide*. In preparation for this new edition, which is a considerable expansion of the old one, all the old trails were cleared and blazed; a new trail, the Agawon Trail, on the Dome was opened; and several viewpoints along some of the Greylock trails were cleared. The trails are now in good condition, with this spring's work to be devoted to improving the viewpoints. During the past several years three dozen new signs have been hung.

The Metacomet Trail is in generally good condition. The University of Massachusetts Outing Club expects to work during this year on the section northward from Pelham Road into Shutesbury.

Most Connecticut trails are reported in good condition, with some minor changes made where necessary because of houses, roads, or land ownership changes. New trails have been constructed in the Sleeping Giant State Park in Hamden. The most extensive new trail, the Nehantic Trail, is about fifteen miles long and runs from Green Falls Dam, Voluntown, to Hopeville Pond, Griswold, mostly on state forest land. The Connecticut Forest and Park Association expects to reprint the *Connecticut Walk Book* probably by next fall, with revisions bringing it up to date.

The Rhode Island trails are in generally good condition, but the Narragansett Chapter of the A.M.C. expects to do considerable spring clearing, and remove some blowdowns. The Chapter plans to lay out a new trail this spring from the picnic area on Escoheag Hill to Beach Pond, in the southwestern corner of the state.

The Taconic Hiking Club reports it has finished clearing and blazing, mostly with aluminum diamonds painted white, the Taconic Crest Trail, which extends along the New York-Massachusetts border from Berry Pond to North Pownall, Vt.

Maintaining trails which can be easily and safely followed through a wilderness area is a never-ending task, due both to the forces of nature and the equally destructive works of man through lumbering, mining, road building, etc. The expense of such maintenance has become an ever-increasing problem; and if expenses continue to rise, adequate trail maintenance will become more and more the responsibility of those who use the footpaths. Several organizations have expressed a need for volunteers to help carry on their trail-maintenance responsibilities. Anyone who has ever been on a trail-work party can testify to what a satisfying and enjoyable experience it is. The New England Trail Conference will be pleased to refer any willing volunteers to organizations which have requested assistance, with due regard for the exigencies of geography and time.

EDITH M. LIBBY, *Secretary, New England Trail Conference,*
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The Forest Service reports that improvement work on the Tuckerman Ravine and Piper Trails was completed in the spring of 1959. This included new bridges, relocation of portions of the trail and betterment of the existing tread. Considerable of this new tread on the Tuckerman Trail was washed away in the October floods. Construction was started in 1959 on two new trail bridges in the East Branch of the Pemigewasset Valley including a 180-foot suspension bridge on the Wilderness Trail at the old Camp 17 trestle and a 65-foot treated-timber bridge on the Thoreau Falls Trail. These will be completed in 1960.

ROADS

The Forest Service reports the following road changes: A new road, about two and one-half miles long, will be constructed from the Tripoli road to Russell Pond in Woodstock; plans will be drawn this summer for eventual construction of a recreation area at this 41-acre lake. A 1.02-mile section of Route 16, from the vicinity of the Pinkham Notch highway camp to a point beyond Thompson Brook bridge will be relocated by the N. H. Department of Public Works and Highways. The new road will pass through the back of the Wildcat parking lot, thus placing the parking area on the same side of the highway as the rest of the Wildcat development. In Conway a section of Route 16 about one mile long will be relocated this summer by the Highway Department. This will provide a new intersection with the Kancamagus Highway. The flood damage on the Kancamagus Highway will be repaired this summer.

Landslide Danger in Franconia Notch. With the most recent landslide of October 24, 1959, in Franconia Notch, interest has been rekindled and the inevitable question asked: "Will it happen again?" Predictions are dangerous—witness that of Prof. C. H. Hitchcock in 1874 that the Old Man of the Mountains would soon come tumbling down, and his recommendation that everyone go to see it while it was still there. The Old Man, with only a minimum of help from men, has proved more durable. Nevertheless, it is safe to say that more landslide activity in Franconia Notch is about as sure as death and taxes.

The landslides in this area, and there have been many, are of the debris-avalanche type so common throughout the White Mountains. They occur during very heavy rains in summer and early fall on slopes sufficiently steep which are covered with unconsolidated mantle. Study of White Mountain slides has indicated that the actual sliding occurs on slopes averaging about 32 degrees, but it is possible on a range from 25 to perhaps 35 degrees. They occur in a wide variety of material ranging from till to joint-block mantle of a variety of bed-rock types. Although clay may be involved, it is usually only as deposits in stratified drift in lower sections, cut by erosion of the slide debris and water, and therefore not involved in causation. There is reason to believe that probability is increased by maturity of the forest vegetation. But the single most important causative factor, given mantle on sufficient slope, is intense rainfall.

Franconia Notch has been an area of high incidence, almost all the slides occurring on the steep western slopes of the Franconia Ridge. (There are slides on the east slope of this ridge also, but we are not concerned with them here.) Aerial photos of 1954 show the scars of some 42 slides on the west-facing slopes in the area from Lafayette Brook, draining the northwest slope of Mt. Lafayette, south to Clear Brook, draining the southwest slope of Osseo Peak (Whaleback). The mountains west of the notch road are for the most part of gentle enough slope, excepting, of course, in the case of the cliffs of Cannon Mountain. These cliffs, of sheeting Conway granite, are too steep to maintain a mantle, and the talus below is stable. There are scars of two possible very old slides on this west side of the road: one on Cannon Mountain southwest of the cliffs, the other on the same mountain in the ravine of the tramway, northwest of the cliffs.

Fortunately, there is only one region of the notch where the steep slopes are close enough to cause trouble for the road, and that is the section, about three miles in length, from Echo Lake south to the point at which the Lonesome Lake Trail leaves (just north of the crossing of Walker Brook). South of Walker Brook the road is far enough removed from the steep ravine heads; the many slides there have followed down the permanent drainage channels, scouring them to be sure, but tamed by the time they reach the road. Clear Brook, the ravine of which has been a great slide-breeder, drains into the Lincoln valley.

The first historical mention of slides in the Franconia region is Farmer's 1823 reference to two large gulfs being produced in the north part of Lincoln Township "by an extraordinary discharge of water from the clouds in 1774. The numerous slips, as they are called, from the mountain are worthy of notice".[1] The gulfs were very likely in the Flume area, though the Flume itself is not supposed to have been discovered until about 1827 by the elderly Mrs. Jessie Guernsey, while on a fishing trip. The Franconia Notch road was built about 1805. The great storm of August 27-28, 1826, the occasion of the Willey disaster and so many slides in Crawford Notch, must have produced slides in Franconia. I have found no specific descriptions, but the Franconia Notch road was closed until November as a result of this storm.

A large slide occurred on Mt. Lafayette in June of 1850. This one, which was descended by Prof. Edward Hitchcock and a group of his students from Amherst,[2] was apparently located at the head of Walker Brook Ravine.

A large slide down the north slope of the big west spur of Mt. Lincoln, the scar of which is still visible, occurred previous to 1879, possibly in the June, 1850, storm.

On June 20, 1883, three big slides came down in the Flume Brook Ravine, sweeping the great suspended boulder out of the Flume. The same storm produced five slides in Clear Brook Ravine.

There were enough slide scars on Lafayette for Bradford Torrey to

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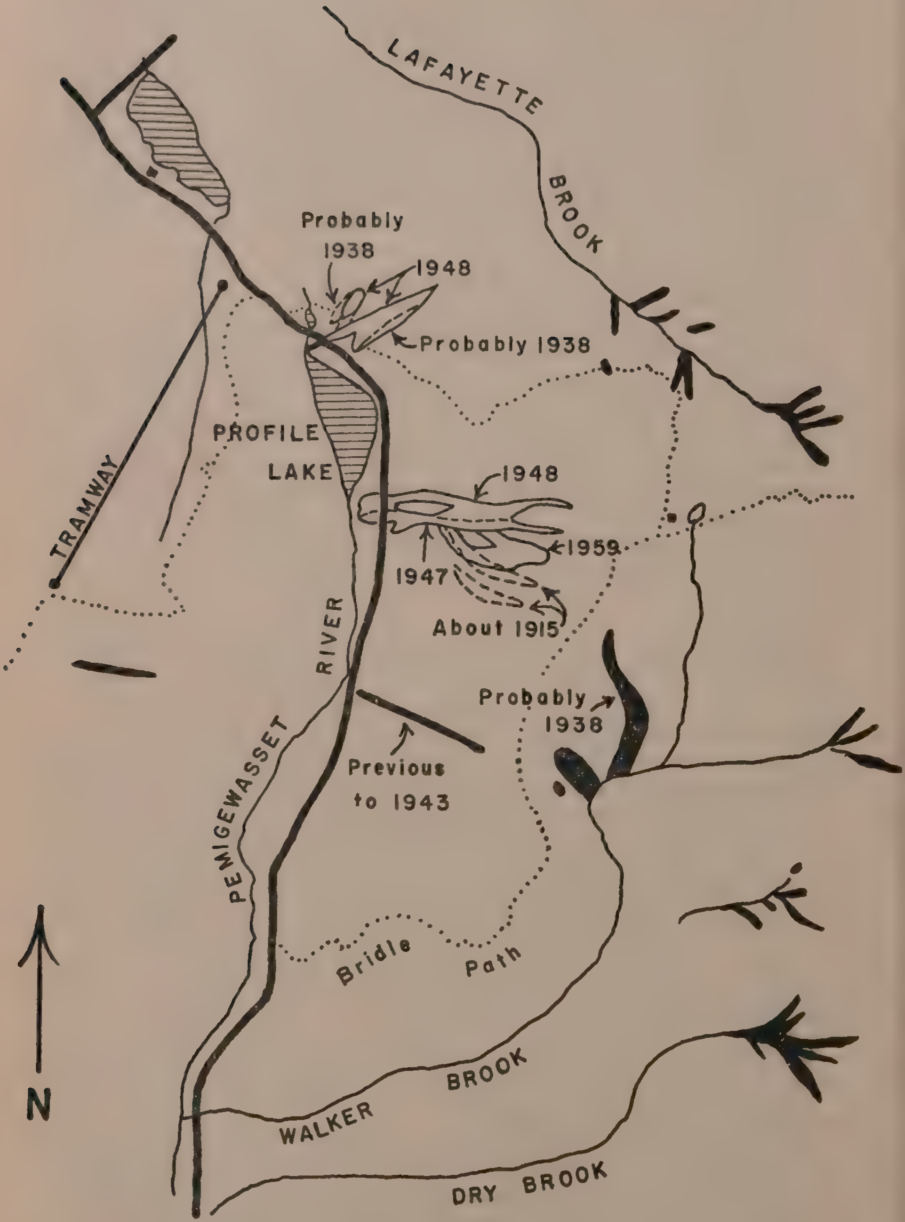
[1] Farmer, J., and J. B. Moore. *A Gazetteer of the State of New Hampshire.* Concord, N. H., 1823.

[2] Hitchcock, E. "Description of a Slide on Mt. Lafayette at Franconia." *American Journal of Science* XIV, 2 (1852), pp. 73-76.



Sketch Map of part of Franconia Notch, showing area of greatest danger to road. Locations of past slides are shown, with dates of occurrence. Slides affecting road are merely outlined, to permit showing locations of previous slides at same sites; all others are inked solid.

speak, in 1901, of "the long, rugged upper slopes of Lafayette, torn with slides and gashed into deep ravines".[3]

Sometime around 1910, perhaps as late as the hurricane of September 15, 1915 (the occasion of extensive blowdowns in the White Mountains), two slides came down, starting south of the present large scar of the 1948 slide, and just south of the 1959 slide. The northernmost of these 1915 slides seems to have come down in the same channel used later by the 1947, 1948, and 1959 slides (see sketch map).

Three slides at the head of the unnamed ravine between Walker and Dry Brooks can possibly be attributed to the storm of November 3-4, 1927.

Hutton (1939)[4] tells us that the hurricane of September 21, 1938, brought down more than six slides intersecting the Greenleaf Trail; it is likely that there were several more in Lafayette Brook Ravine. The notch road was closed by a slide which occurred directly at the lookout to the Old Man, burying the road to a depth of 10-15 feet. Hutton mentions another slide of this same storm in the region of Walker Brook.

On June 3, 1947, there was a slide which barely crossed the road at the same site as the later slides of 1948 and 1959. It left about one foot of debris on the road, which was cleared with a snowplow.

The next year, on June 24, 1948, the two big slides came down, within twenty minutes of each other. The northern one crossed the road at the north end of Profile Lake, a small amount of material coming close to the gift shop. It followed in part a small track of a slide of uncertain date but known to be previous to 1943. The part that crossed the road was probably in the track of the 1938 slide. Fortunately, most of the debris from this slide followed a path a little more to the south and came to a stop before reaching the road. Had more of it followed the northern channel, there might have been a disaster, since people were in the gift shop at the time.

Considerably larger was the southern slide, which crossed the road at the south end of Profile Lake. As already mentioned, this one followed the track of the 1947 slide, which it extended greatly in width. It covered the road to a depth of 10-15 feet, and the highway department had to remove 10,000 cubic yards of debris.

Also, in this 1948 storm, there were additional slides in the ravines of Lafayette and Walker Brooks.

Finally, on October 24, 1959, occurred the most recent slide, the head of which lies between that of the 1948 slide and the older ones of about 1915. This most recent slide entered the track of the 1948 slide halfway down. According to Austin Macauley (personal communication), when the debris reached the 10-foot-high bank west of the road (the bank being the debris of the 1948 slide) it was slowed practically to a standstill and piled up to a depth of about 27 feet. The road was covered to this depth for a distance of about 200 feet. It required three and one-half days of work around the clock by the highway department to make the road passable.

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[3] Torrey, Bradford. *Footing It in Franconia*. Boston, 1901.

[4] Hutton, J. "Windthrow." APPALACHIA XXII (1939), pp. 315-327.

Summing up the past record, we may say that slides have reached the road and closed it on at least five occasions: 1826, 1938, 1947, 1948 and 1959. I have as yet found no record of it, but it is quite possible that the northernmost of the two slides of about 1915 reached the road. The likelihood of future slides from the east side blocking the road is high. They might occur anywhere from just north of the north slide of 1948, south between the north and south slides of 1948, to a point perhaps a mile south of the 1947-48-59 location. In this stretch the slopes are steep and close enough to the road, and there appears to be sufficient mantle on them. All that is needed is heavy enough rainfall, and that will certainly occur sooner or later.

I would guess that locations of special danger are those immediately to either side of the north 1948 slide, and adjacent to and north of the south 1948 slide. If in these areas slides should enter the channels of the previous ones, we shall again see the road blocked. The gift shop is in a dangerous location, and probably should be closed during intense rainstorms. There is also, incidentally, a distinct possibility of a slide at some future date on the northeast slope of Cannon Mountain, in the ravine from which the tramway starts.

When trouble will come again in this region depends chiefly on when, during the summer-fall period, sufficiently intense rainfall occurs. Prevention of slides in this area, without unreasonable expenditure, is at present impossible.

Edward Flaccus

NOMENCLATURE

Note on Maine Mountain Nomenclature. In an interesting discussion on "Kearsarge North Regains its Name" (Appalachia, December 1957) Miriam Underhill remarks that, "White Mountain nomenclature has been and still is in a very bad way indeed". She then lists the cases in which mountains in New Hampshire carry the same name two or more times. For a comparison of the situation in Maine, the writer has examined a list of Maine elevations that was printed in an early edition of a bulletin entitled "Mountain Climbing in Maine" published by the Maine Development Commission. In Maine, the following situation is found relative to the mountain names:

47 cases in which the name is used twice.	(29)
16 cases in which the name is used 3 times.	(10)
7 cases in which the name is used 4 times.	(3)
4 cases in which the name is used 5 times.	(3)
2 cases in which the name is used 6 times.	(1)
2 cases in which the name is used 7 times.	(7)
1 case in which the name is used 9 times.	
1 case in which the name is used 10 times.	(1)
1 case in which the name is used 16 times.	

(The number in parentheses at the end of each line indicates the number of cases of the same sort in New Hampshire.) From this list it is evident that mountain nomenclature in Maine is also in a deplorable condition. Changing names for sixteen different Bald Mountains or ten Peaked Mountains in Maine would perhaps end in utter confusion. Probably it would be just as wise to allow the local inhabitants to point with pride to their Bald Mountain and forget the other fifteen Bald Mountains scattered over Maine.

Charles B. Fobes

"The Longfellow Mountains of Maine." On April 15, 1959, the governor of Maine approved the following act of the Legislature, which became effective on September 12 of the same year:

"Whereas, the State of Maine has been recognized as one of the foremost vacation states; and

"Whereas, the mountains in Maine provide a major source of the state's recreational activity; and

"Whereas, there is need in promotional writing and advertising for a descriptive term with which to generally designate such mountains; now, therefore, be it

"Resolved: That these mountains within this state included in, and being part of, the Appalachian Mountain Range shall be officially named, and henceforth referred to, as the 'Longfellow Mountains of Maine'." (Chapter 60, *Resolves of* 1959.)

The wording of this resolve makes clear enough the motivation behind it and any comments would be fairly pointless which did not proceed from the same angle. Except that, no doubt, we might go a step farther along the lines suggested by the preamble and consider the value of this new name not only to the Maine promotional writer but to his audience. Our question then becomes: Will the prospective visitor to Maine—and in particular the visitor interested in mountain climbing —be more inclined to consummate his visit if he is offered "the Longfellow Mountains" as one of the state's attractions? Not a foolish question, by any means. What's in a name? Nothing, says Shakespeare; everything, at least in some cases, says the modern psychologist, who doesn't for a moment agree that a rose would smell as sweet by another name lacking the associations of this one. So then, what's Longfellow's name worth as a means of selling the mountains of Maine to possible customers?

Some collective name or other these mountains, without a doubt, could profitably have. Let's say that I, a stranger with an urge for mountain climbing and on the lookout for a new field of activity, am looking over the map of Maine. I see it dotted here and there with the names of individual peaks, but I see no general name indicating an extensive mountain range or group. I get the idea that while there may be some isolated climbs scattered about, there is no generally mountainous region—like the White Mountains, the Green Mountains, or the Adirondacks—that would repay intensive cultivation in a prolonged visit. The trouble is that this impression is fifty percent, but only fifty percent, correct. The mountains of Maine *are* pretty much scattered about, which is undoubtedly why they have not received a collective name in popular usage up to date; on the other hand, there is a continuous region of high elevation, with several clusters of very fine peaks which no enterprising climber ought to miss. The existence of a collective name would probably help focus his attention and interest upon these.

What sort of name, then, would be appropriate? The region apparently contemplated by the resolve is a huge one. "The Longfellow Mountains" are there defined simply as those "included in, and being part of, the Appalachian Mountain Range". Now, strictly speaking, there is no "Appalachian Mountain Range"; at least, there is none in the northeastern United States. There is a rather indefinite entity called the "Appalachian Mountains", or better the "Appalachian Highlands", extending in one form or another from New Brunswick to Georgia, but this is by no means a unified range. It is a conglomeration of many different ranges, groups and separate peaks, the members of which have arisen at different times and been subjected to various histories. That part of this conglomeration which lies within the state of Maine includes all the mountains of Maine except, possibly, the coastal hills. It embraces not only the disjointed series of minor ranges followed by the Appalachian Trail from the New Hampshire state line to Katahdin, but also the hills along and near the Canadian border and those south of the Androscoggin River. This whole vast area will then fall to the lot of "the Longfellow Mountains". It seems overmuch! While George Washington, possessor of the greatest name in our history, has to be content with a single mountain here and there, Longfellow, not even a major poet but nowadays rated as "the chief minor poet of the English language",[1] walks off with more peaks than Washington, Adams, Jefferson and all their successors can muster among them. If there is a joke here it certainly concerns the use of the name "Longfellow" and not those of "Washington", etc.[2]

If Maine is to have a collective name for its mountains, the most desirable thing would surely be a fine old Indian name of the sort with which the state abounds. But there is another problem here which the legislators do not seem to have considered. Geologically, the mountains of Maine are continuous with the White Mountains of New Hampshire. Properly speaking, the White Mountains do not belong to New Hampshire but, like the Rockies, are an interstate range or group —running across northern Maine, filling northern and western New Hampshire, and projecting into northeastern Vermont. Their greatest uplift is in New Hampshire, but a second great uplift is found in Katahdin and its neighbors. (And, interestingly enough, there is testimony that in early days Katahdin, like Mt. Washington, was referred to as "the white hill".) Nowadays, however, for better or for worse, the name "White Mountains" has become associated so exclusively with the New Hampshire segment of the total formation that no one could reasonably expect Maine to adopt it as well. (Not to dwell on the point that the name is a mighty poor one, in addition.) Yet the previous existence of this name, and its geological and geographical propriety for the whole tri-state mountainous area, makes difficulties for any would-be newcomer. For instance, is West Royce to be in the White Mountains and East Royce, its twin, in the Longfellow Mountains? Does the Mahoosuc Range pass out of the former and into the latter when it crosses the state line, between Mts. Success and Carlo? And what about the case of Camels Rump or Rump Mountain, near the Canadian border, where this line passes over the summit ridge itself? No doubt these little things won't bother an enthusiastic promotional writer or even a mapmaker (who can scrawl "Longfellow Mountains" somewhere across the face of northern Maine and be done with it), but they will cause plenty of headaches to a poor guidebook writer, who has to be detailed and precise. A much more careful definition of the new name seems to be needed. Perhaps one could lay down that the Longfellow Mountains shall begin east of Evans Notch, Grafton Notch and the Magalloway River, resigning what is west of these to the White Mountains. (But then, there goes Old Speck, and what loyal son of Maine will stand for that?)

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[1] Van Wyck Brooks, *The Flowering of New England* (New York, 1936), 511-512, quoting Arnold Bennett.

[2] There are, I believe, no other extensive mountain areas, groups or ranges in the United States which are called by personal names. "The Longfellow Mountains" keep company with the White, Green, Black and Blue Mountains, with the Great Smokies, the Ozarks and the Wasatch Range, with the Rockies, the Cascades and the Sierra Nevada. It should perhaps be embarrassing! There is a range in Canada bearing a personal name, the Selkirks. But here the very obscurity of the person in question saves the day. Nobody knows who this man Selkirk was, his name is perfectly meaningless and so no better and no worse than any other. But Longfellow's name will never be meaningless, everyone knows who he was, and so comparisons are unavoidable.

The objection most often made to the name "Longfellow Mountains"—I have already heard it several times—is that "Longfellow had nothing whatever to do with these mountains". True enough, for what it's worth. The only justification (beyond his eminence) brought forward for the use of Longfellow's name is that he was a native of Maine. He was born in Portland in 1807 and lived there for his first fifteen years; then went to Bowdoin College, as student and later teacher, for thirteen years (omitting certain interludes); after which he removed to Cambridge, Mass., for the remainder of his life.[3] He visited the White Mountains of New Hampshire, but never the mountains of Maine. And not only had he no actual connection with these mountains, he seems to have felt no affinity with any mountains whatsoever. Mountains failed to inspire him, and roused no echoes in his poetry. He passed through the Alps, duly recorded in his diary that the scenery was "magnificent", but—unlike the German poet Goethe, and unlike the English romantic poets Wordsworth, Coleridge, Byron and Shelley—was moved by them to no lyric outbursts. He visited the White Mountains, but again—unlike the cases of Whittier, Hawthorne and Thoreau—no literary fruit came of it. Longfellow simply was not, in any sense, a poet of the mountains.

There is, to be sure, a juvenile poem on Jeckoyva (Chocorua), but it is wholly about the man, and not the mountain. There is a late poem on Mad River, in which the river itself does most of the talking, explaining its course animistically as if this course were one of human life. And then of course there is "Excelsior", enormously popular in Longfellow's lifetime:

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[3] At the time of Longfellow's birth Maine was politically a part of Massachusetts, becoming an independent state only in 1820. Longfellow's father, though having a law practice in Portland, was in 1814 a member of the Massachusetts Legislature. Sentimentally, however, Longfellow seems always to have belonged at least as much to Maine as to Massachusetts.

The shades of night were falling fast,
As through an Alpine village passed
A youth, who bore, 'mid snow and ice,
A banner with the strange device,
Excelsior!

His brow was sad; his eye beneath
Flashed like a falchion from its sheath,
And like a silver clarion rung
The accents of that unknown tongue,
Excelsior!

Our hero is warned, indeed implored, not to continue upward in the face of storm, mountain torrent and avalanche, but all to no purpose:

A tear stood in his bright blue eye.
But still he answered, with a sigh,
Excelsior!

So he ascends to his fate:

At break of day, as heavenward
The pious monks of Saint Bernard
Uttered the oft-repeated prayer,
A voice cried through the startled air,
Excelsior!

A traveller, by the faithful hound,
Half-buried in the snow was found,
Still grasping, in his hand of ice,
That banner with the strange device,
Excelsior!

There in the twilight cold and gray
Lifeless, but beautiful, he lay,
And from the sky, serene and far,
A voice fell, like a falling star,
Excelsior!

(See the parody of this poem in APPALACHIA XXIII, June 1940, p. 71. Parody, of course, testifies to popularity.)

Now, if we were to take this poem literally we should have to say, in all honesty, that it is about the silliest mountain poem ever written, showing that its author knew less than nothing about alpine climbing. But this would be most unjust to Longfellow, for in fact the whole thing is intended (so he himself explains) as an allegory, setting forth "in a series of pictures the life of a man of genius, resisting all temptations, laying aside all fears, heedless of all warnings and pressing right on to accomplish his purpose. . . . Filled with these aspirations, he perishes without having reached the perfection he longed for; and the voice heard in the air is the promise of immortality and progress ever upward."[4] This explanation saves the poem, brilliantly, but at the price of disqualifying it completely as evidence for Longfellow's interest in the mountains as such. If there is any real evidence for anything of this sort it lies in the poem "Sunrise on the Hills", but even here it is primarily the woods (see also *Evangeline*) and not the hills which capture his imagination and speak to his heart.

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[4] Longfellow, *Complete Poetical Works*, Cambridge Edition, p. 19.

Yet, in my opinion, all this is completely irrelevant to the question of whether Longfellow's name can be appropriately attached to the mountains of Maine. He had indeed no actual connection with these mountains—but it is only in the cases of little men that any such connection is needful. We demand it in such cases simply because otherwise there would be no earthly reason for naming mountains after such people at all. Consider the set of four peaks running northeast from Carrigain Notch, along the west border of the Saco valley—Mts. Lowell, Anderson, Nancy and Bemis. Lowell is named, not for James Russell, but for a quite obscure Abner Lowell, said to have been "one of the oldest and most enthusiastic of White Mountain explorers".[5] Anderson is named for John F. Anderson, chief engineer of the Portland & Ogdensburg (now the Maine Central) Railroad, which runs through Crawford Notch.[6] Nancy, for the poor girl who was found dead of exposure in the winter of 1782 at the foot of this mountain.[7] Bemis, for the Boston dentist who built the stone house which is now the Inn Unique at Notchland, under Mt. Bemis. Who would ever think of commemorating any of these people in such fashion if they had not had some actual contact with the mountains in question? But, in the case of great men, their eminence alone is an entirely sufficient reason for christening mountains in their honor. Who thinks of inquiring whether George Washington ever set foot in the White Mountains before finding it quite fitting that his name should attach to their highest summit? Or of inquiring, for that matter, whether Washington ever set foot on any mountains whatever, or cared about them in any way? The same goes for Washington's immediate successors, our distinguished early presidents, and naturally for Lincoln. Likewise, I think, it should go for Longfellow, who is after all still our chief American poet. Surely, for his greatness alone he deserves a mountain (though hardly an entire mountain area!), and it is gratifying that for once a poet, or literary man, should receive such an honor. Whittier, to be sure, already has a peak, but it is a puny one, no better than what some lumber company bosses get; while Hawthorne and Thoreau rate only a waterfall apiece.

So much for a possible "Mt. Longfellow" or "Longfellow Peak". But the proposed name, "the Longfellow Mountains", applying to a whole region, is something else again, and here another angle becomes important. Realize that we are trying to get a name for the mountains of Maine which in itself, or purely as a name, will prove attractive to climbers, predisposing them to investigate and eventually visit the region to which it applies. Now, for a mountain climber with the least ambition the sort of mountain name which, purely as a name, possesses allure is one which suggests difficulties and promises adventure. Mountain names differ greatly in this respect. "White Mountains", a poor enough name on the whole, does after all have—or did originally have—this merit, that it suggests the presence of snow, always an enticement.

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[5] Appalachia XIII (December 1915), p. 378.

[6] Appalachia XIV (June 1918), p. 263.

[7] Appalachia XIII (December 1915), p. 380.

"Rocky Mountains", another very poor name on the whole, yet means something rough and rugged, a trial and tribulation to the caravans of prairie schooners but an attraction to the early explorers. "Great Smoky Mountains" is a jewel of a name, suggesting to a stranger the combination of size and mystery. Best of all, in this class, is "Sierra Nevada", "snowy and serrated", or all that mountains should be, the fulfilment of a climber's dream. These are all descriptive names. Others intrigue by their mere sound, their meaning being unknown or forgotten. Here, first of all, comes "Katahdin", the grandest mountain name on our entire continent. Then "Adirondacks", another million-dollar label. Elswhere there is "Kangchenjunga", "Dhaulagiri", and many of their ilk. Magic aplenty in all of these! Lastly, there are the personal names, as applied to mountains. Most of them mean nothing by way of association and have of themselves no drawing power. "Mt. Rainier", "Mt. Whitney", "Mt. McKinley", even "Mt. Everest"—merely as names, each of these falls flat. But "Mt. Washington", for instance, is different; it does mean something. We feel that the mountain must in some degree be worthy of the man; it must be outstanding among peaks, decidedly worth climbing.

How, then, is it with "the Longfellow Mountains"? Eminent Longfellow was, and still is. But, in the case of a poet, we think of the character of his works. Now, Longfellow has always been, preeminently, the *household* poet, fit to be read aloud in the bosom of the family, suitable for recitations in school. Nothing violent here, no life in the raw, serenity always the keynote—in short, characteristically the Victorian, pre-World War atmosphere. Can we escape these associations when the name "Longfellow" comes up, in any connection? I, a stranger, eager for some good climbing, hear or read the name "Longfellow Mountains". "Hum," I think, "Longfellow. Doesn't sound too exciting. Probably pleasant, gentle little hills. Better look elsewhere for something with more of a challenge." Which is very unfair to the mountains of Maine, and unfortunate for me, who thereby miss a good thing.—While on the other hand, if I happen already to know something about the mountains of Maine and their many virtues, I may well crack a smile or two at the idea of that rugged hellion, Katahdin, being included in the placid family circle of "the Longfellow Mountains".

However, all this is just idle talk, sheer speculation. It remains to be seen, in actual fact, whether the name "Longfellow Mountains" turns out to answer satisfactorily the purpose for which it was introduced. And, furthermore, whether, for popular usage, as distinct from official and semi-official publications, it can be made to stick.

ROBERT L. M. UNDERHILL

SCIENCE

No Russian Yeti, After All. In our issue of June 1958, pp. 126-7, we brought the report that a Russian scientist, A. G. Pronin, claimed to have seen an Abominable Snowman on the Fedchenko Glacier in the Pamir, and that the Soviet Government was planning a properly organized expedition to check on this claim—which, we may add, was later supported by the pronouncements of several Chinese scientists who asserted that the *yeti* had been encountered all right enough in

Tibet. Such an expedition was in fact sent out, and in February of this year, as related by the *Manchester Guardian,* it had rendered its report. Alas, no Ivanov (code-name for the A.S.)! After spending months in the search the party came upon a mass of evidence which "made their hearts heavy with disappointment", as indicating the unlikelihood that the Snowman could ever have existed in this region. The evidence consisted of thousands of tools and weapons used by primitive men, hunting tribes which had lived in caves from 8000 to 5000 B.C.; and the Soviet scientists had already come to the conclusion that if there is a Snowman, he could live only where human beings have not survived, since the latter would undoubtedly have driven away or exterminated the Snowmen. Furthermore, when the expedition reached the spot where Pronin had claimed to see the Snowman they became convinced that the distance between observer and observed was so great that nothing could have been discerned.

All in all, the expedition lasted nine months, says the *Guardian,* remarking facetiously that here the Snowman "had to contend with the combined resources of the Soviet Academy of Sciences, which has also been in charge of the development of the sputnik, rather than with the amateurish efforts of Fleet Street.[1] . . . Concealed observation posts, equipped with telescopic lens and other special instruments, had been set up in all the likely places. More than twenty rams and goats were used as bait, and nets and other snares were laid in more than thirty places. Experienced snow-leopard hunters accompanied the teams, who had spent more than a hundred days in their hide-outs, lying in wait for the prey.

" 'Farewell, you fascinating riddle,' Professor Stanyukovich [the leader of the expedition] concludes his account, written for the Soviet press with a natural zest that few Fleet Street writers could have equaled. 'Farewell, inscrutable Snowman, ruler of the heights and the snows. A pity, a thousand pities, that thou art not to be found. What, not at all? Not anywhere? Perhaps thou art yet to be found, in the remotest mountains of Nepal. Perhaps.'

"But not, in the professor's considered view, in Russia. The Soviet Snowman is dead, long live the capitalist Snowman. Over to you, Fleet Street."

CONSERVATION

The New Hampshire Natural Preserve Forum, although little more than a year old, promises to be a force for conservation in the State. Focusing its interest on preserving unique, rare or undisturbed samples of vegetation, wildlife habitat or other outstanding natural features, rather than wilderness *per se,* it has no formal membership; persons attending its bi-monthly meetings represent unofficially organizations concerned with natural resources. Without by-laws, permanent officers or dues, the group has come into being because of the desire of members of various organizations with very diverse special aims to work together for the protection of nature, in which they are all interested. To date its accomplishments have been to stimulate each organization represented to examine its own holdings and list protected areas; to complete a list of types of areas, and specific areas, in need of preservation; to develop a system for identifying and locating on the map protected areas and those in need of protection; and to activate committees to seek information on areas worth preserving with a view to their purchase, or their protection by the present owners.

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[1] Fleet Street is London's Newspaper Row, and the reference, no doubt, is to such investigations as that of Ralph Izzard, reporter for the *Daily Mail,* undertaken under the sponsorship of that paper and described in his book, *The Abominable Snowman* (1955).

In Maine, as in other states, there are conflicting opinions—often because of lack of information—as to the wisest use of its natural resources of soil, water, forests, wildlife and minerals. Consequently the Natural Resources Council, Inc., has been formed to inquire, to inform and to educate so that the public can intelligently seek what is best for the state. Non-profit state-wide organizations, both private and official, which are actively interested in any phase of conservation have formed the Council to work together as a co-ordinating agent and educational clearing house.

The Council's first bulletin is devoted to proposals for the development or preservation of the Allagash region. Lying in the northwestern corner of Maine, this region (7500 square miles with no public roads) of lakes, streams, forests, is held by private owners who have built some gravel roads to facilitate lumbering. Extension of lumbering and of recreational use by plane and automobile tend to destroy this wilderness. There are three current proposals affecting the Allagash: 1) The construction of the Rankin Rapids Dam on the St. John River. As a source of auxiliary power in connection with the Passamoquoddy tidal power project, the dam (333 feet high and 7400 long), would obliterate 97% (60 miles) of the Allagash River by turning it into a lake having a variation in water level of some 37 feet. It would also flood out 57 miles of the St. John and 18 miles of the Little Black River. After a thorough survey, Federal and State fish and wildlife services report that the construction would cause extremely severe losses in fish and wildlife resources. 2) Local interests are actively promoting a public highway through the heart of the wilderness from Ashland on Route 11 west to Daaquam on the Quebec border; this would largely follow existing private roads, whose owners have as yet been unwilling to donate a right-of-way. 3) The National Park Service has made surveys of the region to determine whether it is of national park caliber. It is expected that a report recommending an Allagash National Park will be issued shortly. There is much local opposition on economic grounds, but until a definite proposal is presented an intelligent stand cannot be taken.

As an objective and explicit clarification of the Allagash situation, this bulletin admirably fulfills the aims of the Council.

The Northern Cascades. Not only the fortunate folk who have camped and climbed in the Northern Cascades but the many others who have read in APPALACHIA or seen a film of this Washington mountain wilderness feel strongly that it is a magnificently scenic region eminently worth preserving in its natural state. Two methods of accomplishing this aim present themselves: the Forest Service may designate it as a "Wilderness Area", or it may be constituted a national park. The Forest Service has made several proposals on the matter; in 1939 it suggested a Glacier Peak Wilderness of 794,440 acres, its recent proposal has shrunk to 422,925 acres and presents a strange octopus-like contour including scarcely half as much territory as the careful study made by the Mountaineers recommends for protection. Such conduct throws grave doubt on the security of the region under Forest Service management, and a movement has been initiated for the National Park Service to make an examination of the area to determine whether it is of suitable caliber as a preliminary to its establishment as a national park. Since the land is now administered by the Forest Service, which has refused its permission for the study, progress is stopped until Congress acts on pending bills for the National Park Service to make a survey of the Northern Cascades.

Marjorie Hurd, *Chairman, Conservation Committee*

Northeastern Compact of Water and Related Land Resources. In 1950 the President asked the Secretaries of the various departments concerned with natural resources to form an inter-agency committee to make an inventory of the land and water resources in the New York and New England area and to submit to him a comprehensive report. At the same time he asked the governor of each state involved to appoint a representative to serve with the committee.

Five years later the committee presented their report, in forty-six volumes, with a condensed version in one volume. The report makes no specific recommendations for any projects, but is to be used as a guide for future years.

On completing their work the committee felt that there should be some organization to implement their report. The problem was to devise one which should include the Federal as well as the State agencies, and thus rest upon more than merely an agreement among the several states. After two years of effort the plan of the Compact above mentioned was drafted.

The aim is stated to be the coordination of the policies, programs and activities in the fields of water and related land resources, and the resolution of conflicts through study and planning. On the Compact's commission there is to be one representative from each of the Federal agencies involved, and one from each of the New England states. Majority votes of both the Federal and the State representatives are required in order to make a decision.

To date the Compact has won the legislative approval of Rhode Island, Connecticut, New Hampshire and Massachusetts. Federal action is pending.

Marie E. Lewis

Conservation in New York State. As Appalachia went to press before the results of last November's elections were known, members who were interested in the constitutional amendment to permit the Northway to be built through Forest Preserve land may not have learned the final result. The Club and the New York Chapter had opposed the amendment but we lost since it had official support and the expenditure of much more money than we could afford. The official count was: approved, 1,621,428; opposed, 1,261,789. This was not so bad as in some of the measures we have opposed in the past, but bad enough to make many of us worry for the future safety of the Forest Preserve. One sad feature was that the count of blanks in the vote was 1,932,760, or close to 40 per cent of the registered voters who recorded a vote on some of the nine amendments before them. Much greater efforts of conservation education seem to be needed.

This year's session of the Legislature has before it one other amendment which supporters of the wilderness character of the Forest Preserve must try to defeat. This is to build one more ski area in the Catskills. And to build it, not by the State, as all the other ski areas on public land have been, but by a private corporation to which the slopes of Hunter Mountain would be leased. And this private corporation is empowered in its charter to construct ski trails with "appurtenances", defined as "lodges, motels, hotels, cabins, trailer camps, parking lots, restaurants, bars, cocktail lounges, retail establishments for the sale of any and all kinds of merchandise; selling, licensing of concessions, outdoor or indoor theatres, resort areas, play houses, concert halls". Little would be left of Hunter Mountain!

In proposed laws, two to be supported would limit billboards to Federal standards, and limit the water level behind the power dam on Lake George to save the islands, which are all State lands, and the shores from serious erosion. A much more doubtful proposal, full of legal quibbles, is a wholesale water-regulation measure which may be unconstitutional but which may also involve the State in another Panther Dam fight.

RUTH GILLETTE HARDY

Report from Our Evelyn H. Murphy Fellow at the Forestry School of the University of Maine. To date my academic work has proven satisfactory and the construction of a questionnaire that will be used to acquire information has been accomplished. I have begun interviewing ice fishermen in the study area and will continue on with regular fishermen, campers, hikers, and picnickers through the spring and fall. Academic work this semester will include courses in photogrammetry and logic.

The problem under investigation is in the field of forest recreation on private timberland. It will emphasize the planning problem in building roads for timber harvesting which will subsequently receive some degree of recreational use. The amount of recreational use these roads receive will depend almost entirly on the facilities they make accessible and the quality and quantity of the roads themselves.

In view of the fact that literature on this subject is limited I am attempting to determine through personal interviews the desires of the recreational users in regard to the roads and other facilities made available to them by the private landowners on a portion of the State of Maine. By employing a questionnaire in conjunction with personal interviews I hope to obtain the views and opinions of recreational users in regard to existing facilities, improved facilities depending on cost, and landowner and operator management policies. In addition to this

I intend to obtain the views of those most intimately associated with recreationists, namely, game wardens, public and private foresters, landowners and operators, and fish and game biologists.

The area chosen for this study extends north and east of Bangor, Maine, and is enclosed by Routes 2 north to Lincoln, 6 east to Topsfield, 1 south to Woodland, and 9 west to Bangor. The area is unpopulated woodland that has been logged over several times during the past 140 years and contains several hundred miles of logging roads, the conditions of which vary from overgrown to newly constructed. There are many lakes large and small, hundreds of trails and streams, and a number of small mountains from the tops of which magnificent views are offered.

It is my intention through examination of past operations, work done by public agencies, company road construction, maintenance, and planning policies, and interpretation of information received from interviews, to resolve the problem of recreational use of private roads into a clear and as closely knit unit as possible for presentation in thesis form, and on the basis of this information to make appropriate recommendations for future consideration.

Bruce E. Stewart, *Graduate Assistant*

WHITE MOUNTAIN NATIONAL FOREST

(See also Skiing, Trails, and Roads)

Flood Damage. The floods of October 23-4, 1959, caused serious damage to the resources and improvements of the National Forest. Extensive damage occurred at the Campton Pond, Zealand, and Waterville campgrounds. Few developed areas escaped without some damage and about one-fourth of our total improved tent sites have been seriously damaged. Many roads and trails, including the Sawyer River, Wild River, Zealand and Bog Dam roads and the Tuckerman Ravine Trail, were badly washed. Surveys have been under way to determine the extent of damage to stream channels on the many watersheds. Most of the road damage has been repaired temporarily. Other major projects are being surveyed and plans are being made for repair or reconstruction as funds become available. We hope to have many of the tentsites repaired or replaced by next summer.

Forest Fires. In spite of high fire danger during the spring season of 1959, and record numbers of people using the National Forest, only three fires have occurred this year, one man-caused and the other two caused by lightning. Together they burned only five acres. A field exercise designed to demonstrate aerial firefighting equipment and techniques to forest-fire control managers was held on the National Forest last May. The states of New Hampshire, Maine and New York and the U. S. Army as well as several private companies participated with the Forest Service in the event. Aerial cargo dropping and delivery of fire-retardant chemicals and water by helicopters and fixed wing aircraft was demonstrated. Special caches of tools for dropping by parachute to firefighters have been developed for use on and adjacent to the National Forest. In August tools and supplies were successfully dropped from a light plane to crews on a lightning fire near Bartlett.

Aerial detection patrols are being flown during periods of high fire danger to supplement the existing lookout towers.

Recreation. The South Pond Recreation Area near Stark with its bathing and picnicking facilities was opened last summer. An average of nearly 500 people used the area each day during the season with as many as 2500 on a single day. As a result of this heavy use a project is now under way that will enlarge the parking facilities to provide for an additional 100 cars.

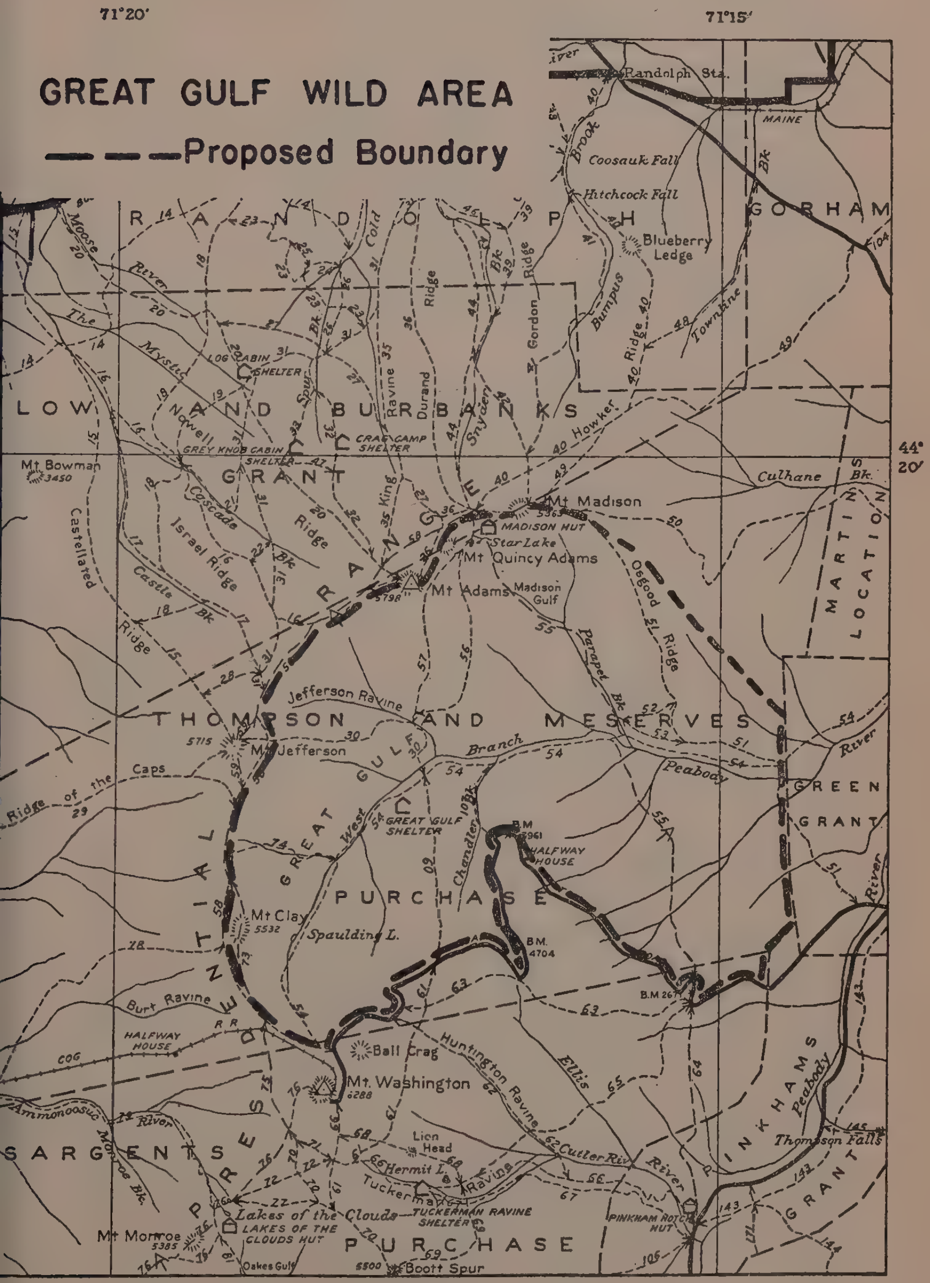
The Covered Bridge Campground near Conway and Crocker Pond Campground at Albany, Maine providing 28 and 7 new tent sites respectively were also opened for use last summer. Facilities available include tent sites with fireplaces, tables, individual parking spurs, toilet facilities, pure drinking water, and refuse pits.

Camping use at all areas increased substantially over that of the previous year, and it is now necessary to limit the length of stay to two weeks at virtually all areas during the height of the camping season. While this limit may be undesirable to those who wish to spend longer periods at an area, it does permit many more people to enjoy the somewhat limited facilities.

In 1960, a new 60-unit campground will be constructed across the Mad River road from the old Campton Pond area which was badly damaged by last October's flood. It will not be completed before early fall. A new 27-unit campground will be constructed in Waterville, near the junction of the Tripoli road and the Mad River road, to replace the old Waterville campground which was badly damaged last fall. It is expected to be finished by July 1. At Dolly Copp Campground a new bridge over Culhane Brook is being built to replace the one destroyed by last fall's flood. It will be completed before the beginning of the summer camping season. The Zealand campground will be put in order this spring, and the Sugarloaf campground on the Zealand road will be enlarged by thirteen additional tent sites.

Great Gulf Wild Area. For many years the Great Gulf, on the northeast slope of the Presidential Range in New Hampshire, has been maintained in its natural condition by the Forest Service. The only development in the area is the trailside shelter of the Appalachian Mountain Club and the only use of the area has been by walkers, with limited use by fishermen and hunters at the lower elevations. In order to assure that this unusual section of the White Mountain National Forest remains in its natural condition, I recommended that it be classified as a "Wild Area" under Regulation U-2 of the Forest Service. This regulation provides for the preservation of primeval environment and specifies that primitive conditions of habitation and transportation shall be maintained.

The area recommended for classification as a Wild Area comprises about 5400 acres and is bounded as follows: Beginning at the point where the south boundary of Thompson and Meserves Purchase intersects the west boundary of Greens Grant; thence in a general westerly direction, parallel to and five chains north from the northern edge of the Mt. Washington Carriage Road to the point where the Gulfside Trail intersects with the Great Gulf Trail; thence in a northerly and



GREAT GULF WILD AREA

— — —Proposed Boundary

easterly direction following the Gulfside Trail and Israel Ridge Path to the top of Mt. Adams; thence following Star Lake Trail and Parapet Trail to Mt. Madison; thence in a southeasterly direction following Osgood Ridge to a point where it intersects the west boundary of Greens Grant; thence in a southerly direction along west boundary of Greens Grant to point of beginning.

This glacial valley is located between Mt. Washington and the Northern Peaks. It is 1000-1600 feet deep and extends easterly from Mt. Washington for some three and one-half miles. Elevations vary from 1700 feet, near its lower border, to 5800 feet near the top of Mt. Washington, with an average elevation of 3500 feet. The area is very rough and steep and in places rises as much as 2500 feet in a mile. Only scattered stands of large virgin spruce remain in the Great Gulf, as much of the area has been damaged by hurricanes. A small portion of the eastern part of the area was culled over for large spruce late in the 19th century.

I knew that the Regional Forester had agreed to the classification of this area, and was informed that the Chief of the Forest Service had given his tentative approval. In line with Forest Service policy, before this approval could become final, it was necessary that the proposed action to classify the Great Gulf as a Wild Area should be advertised for a period of at least six months. This advertising period started on April 15, 1959, and terminated on October 15. If the proposed action had developed a demand for a public hearing, one would have been held, but in fact no objections were raised and no hearing requested. After the notification period had expired a final report was made to the Chief of the Forest Service, who had then to take final action on the classification of the Great Gulf as a Wild area. Our recommendation to that effect has now been approved by him.

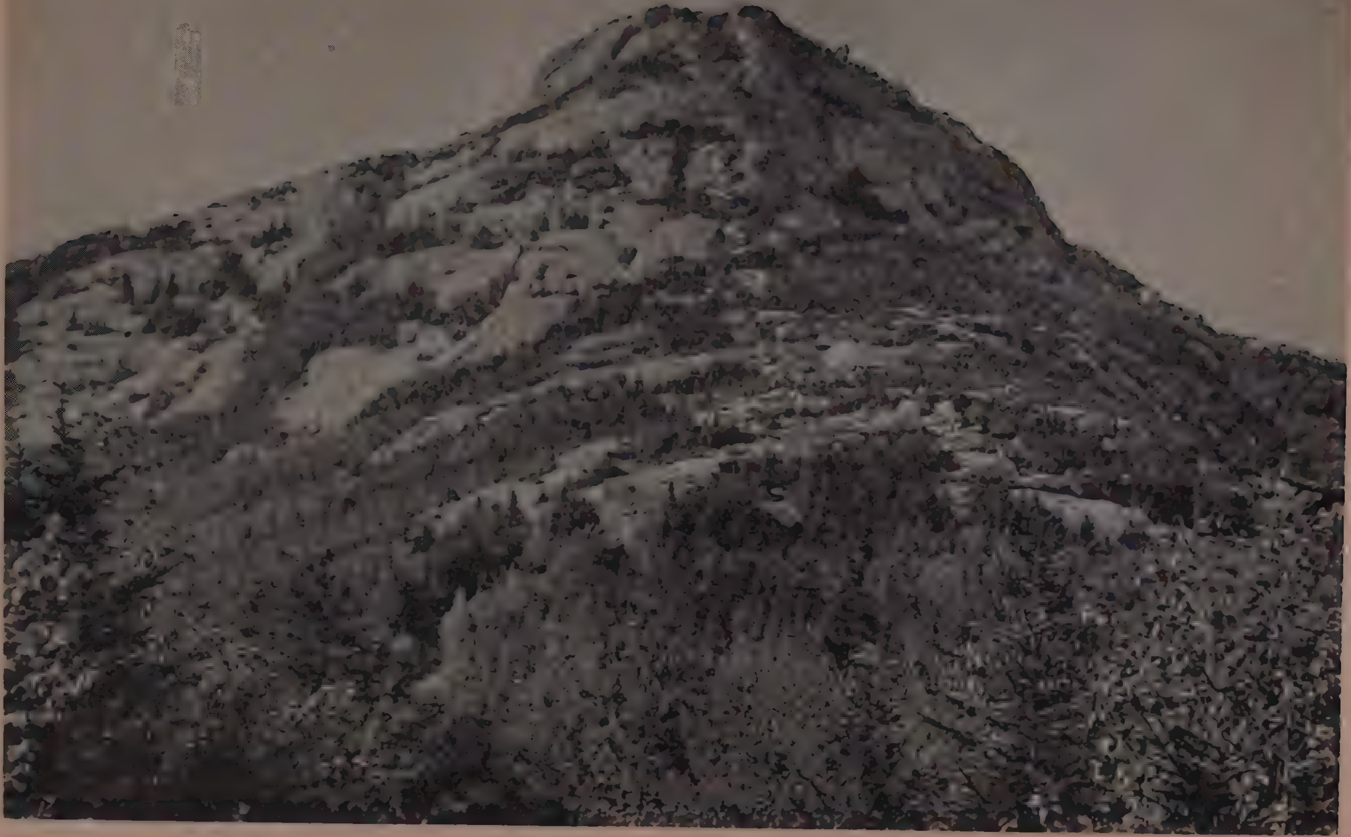
GERALD S. WHEELER, *Forest Supervisor*

PERSONAL ITEMS

George E. Goldthwaite (1890-1960). Ask any New Yorker walker what word came to his mind first when you said "George Goldthwaite" and the answer would probably be "speed". And with reason. George went uphill at a fast walk, along the level or downhill at a lope. The result was prodigious distances covered in a very short time: the "transcontinental" from Tuxedo to Jones Point in less than five hours, for instance. He liked to get maximum distances in a day. Suffern to Bear Mountain wasn't enough, so he did Suffern to Cornwall.

Nor, seemingly, did he slow up as the years went by. There are apocryphal tales of brash young trip leaders who, seeing George's graying hair, suggested taking in some extra mountain in the course of a good day's walk. When the two of them caught up with the others in the party, George was in the lead and the young man's tongue was hanging out!

There was a little book in which George, in the methodical manner of a good engineer, kept his times from point to point on the trail network. He found that doubling his time would be about right for the ordinary A.M.C. walk. As a walk leader, slowing his pace to suit



Harold Orne

SUMMIT OF CHOCORUA IN 1916

Note Peak House slightly above and to right of center

Harold Orne

PINKHAM NOTCH ROAD IN 1912

DARBY FIELD COTTAGE IN 1897

the comfort of the party, he loved to point out all the evidences of early iron mining he had found in the course of his trips. Probably his basic engineering instinct led to his interest in these and in his exploration of the remains of the Dunderberg scenic railway construction.

Few of those who knew him as a walker and climber were aware that George had been a pilot and flight commander in World War I, receiving a Distinguished Service Cross for his achievements. In the world of business he was a highly respected expert in the field of regulation of public utilities.

But those of us who panted in his trail will best remember George as a good companion who truly enjoyed the outdoors. The hills of the Hudson will miss the light touch of his sneaker-clad feet.

Percy T. Olton

HISTORY

Darby Field Cottage in 1897. We reproduce on opposite page a photograph of this historic building kindly sent us by Edward H. Davis of Waterbury, Conn., who comments upon it as follows:

"As I recall it, this photo was taken during the period when the Glen House had burned down[1] and its facilities discontinued for a time. The cottage, situated on the Pinkham Notch road (Route 16) about one-half mile north of the present A.M.C. camp [at the spot where the N. H. Highway Department now has a road camp], was a sort of substitute, putting up transients and furnishing some livery transportation. My brother Alvan and I stayed there for a week or more, having the corner room nearest the observer in the picture. The place was run by one 'Hod' Reed, who lived there with his (common law?) wife and two daughters, Jenny and Lalia. Hod was a bit too fond of the bottle, and I recall a wild night drive to Glen Station in a two-horse drag with him as driver—without accident but with countless *incidents!* Al and I, as preferred guests, were invited, like the man at the funeral, to 'go for the ride'. The old chap who was the railroad photographer stayed at the house, briefly, and Hod drove him and me up to the summit.

"The second from the left, in the picture, is my brother; the next two, Jenny and Lalia; the fifth, myself (with the cat); the sixth, Hod; and the eighth, Hod's wife."

The Jewell Trail, which leads from Marshfield, the present base station of the Cog Railway, up the west ridge of Clay to join the Gulfside, was named for my mother's first cousin, Winfield Scott Jewell. Winfield was born in Lisbon, N. H., September 20, 1850, the son of Ebenezer and Mary (Young) Jewell. His father, who became a soldier in the Civil War, died at Camp Parapet, a prison camp in Louisiana, leaving his widow to bring up three small children, of whom Winfield was the youngest.

After teaching in the Lisbon public schools for a few years, in 1879

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[1] The second Glen House, built in 1885, had burned in July, 1893.—Ed.

Winfield joined the U.S. Army Signal Corps, and spent the two following winters at the signal station on the summit of Mt. Washington. Fred A. Howland (later of Montpelier, Vt.), one of his Lisbon friends, who visited Jewell there, reported that at one time they were "exposed to a heavy gale which tore the anemometers off the building and threatened to blow down the chimneys and otherwise imperiled life and property".

In the summer of 1881 Sergeant Jewell joined the Lady Franklin Bay Expedition led by Lieutenant (later General) Greely. The party planned to remain in the North for two years to carry on much important scientific work and exploration, including an attempt to reach the North Pole. The ship *Proteus* on August 26, 1881, left the party of twenty-five men at Grinnell Land on the coast of Greenland, 1100 miles north of the Arctic Circle, where they were to establish Fort Conger, their base. A ship was to bring more provisions during the summer of 1882.

But no ship reached them. The party, however, had emergency food sufficient to carry them through another year. When, however, again on the following summer, no ship appeared, the situation became grim indeed.

Many of the men, including Jewell, kept diaries. Material from the diary of one of the survivors (Sergeant Brainard) was published in the book, *Six Came Back* (ed. James, Indianapolis and New York, 1940), which paints an appalling picture of hardship and suffering. Most of the men managed to survive and travel on short rations and, later, on almost no rations at all through the following winter. The first to die, of starvation, was William H. Cross on January 18, 1884.

During this time Lieutenant Greely, in an attempt to provide the men with a touch of distraction, instituted a series of talks on the general subject of the United States. On November 24, 1883, they discussed New Hampshire, its lumbering, log driving, camp construction, botany. Jewell played a principal role by telling about his experiences on Mt. Washington. On April 12, after witnessing the deaths on April 5, 6 and 9, of three more of his comrades, Jewell himself died.

A rescue fleet of three ships finally reached the tragic group on June 22, 1884. Of the original twenty-five men they found just seven survivors in the last stages of life (one died later). On August 1 this fleet, having on board the six survivors and twelve of those who had died, arrived at the Navy Yard at Portsmouth, N. H. On the following day a group of Jewell's friends from Lisbon, including his older brother Herman and his cousin Lucius Young (my mother's half-brother), visited the navy yard. These five friends of Sergeant Jewell were the first outside persons to see Lieutenant Greely. Although emaciated and weak, he related to them particulars of the death of Jewell, which they found "very pathetic". Nearly fifty years later, another man from Lisbon called on General Greely at his summer house in Conway and heard some gayer stories, one in particular concerning an occasion when a group of men, including Greely and Jewell, away from their camp, were trying to light a fire. When down to their last match, Jewell used a love letter from a Lisbon girl (the only paper in the group) to get the fire going. When this story got out around Lisbon, "Over a dozen girls claimed to have written that letter"!

The Secretary of the Navy, after first obtaining from Jewell's family a promise that under no circumstances would the coffin containing the remains be opened, gave permission to have Jewell's body taken from Portsmouth direct to Lisbon instead of going first to New York, as the plan had been. The promise which the family gave was of course kept, although younger members of the family were to feel in future years that it would have been interesting to know just what the coffin contained. Later the Navy released to the family a small part of Jewell's diary, twelve and one-half pages written in the hopeful spring of 1882. A few excerpts follow:

Fort Conger, Grinnell Land
May 12th, 1882

My dear friends:

As the season of darkness has now passed and the time for the arrival of the steamer is rapidly approaching, I will . . . begin the brief recital of our doings. . . . Last summer the *Proteus* . . . finally succeeded in getting out of the harbor on the 26th of August. It was not until she disappeared behind the intervening point that we were brought to a realizing sense of the magnitude of what we had undertaken for, as long as she was here, there was one link that bound us to home and civilization but when we saw that *one* severed we could appreciate the situation. But there was no time for repining or vain regrets, for there was our meteorological work, as well as the unfinished building, that required completing, and a tide gauge to be erected, and provision depots for use in our next spring's work to be established. . . .

It was decided by Lt. Greely to establish a large depot near Cape Buchy, and as the water remained open along the shore, a boat party was organized, of which I was a member, and on the morning of August 31st we started in the whaleboat loaded down with provisions. We had no trouble until after rounding what is known as Dutch Island, when the effect of the currents began to be felt, as large bodies of ice were brought down upon us by the changing tides. And for 15 hours we had no relaxation, as every energy of mind and body was brought into requisition in order to keep clear of moving fields of ice that surrounded us. I never before realized what danger was, but our lucky star was in the ascendent, and about 1 a.m. of the 1st, a few hours after landing, a severe storm set in and we were detained until the next day. In the meantime the ice pack had come down upon us so that there was no sign of open water. In consequence we were obliged to haul our boat upon the shore and trust to our feet for taking home over the hills. . . .

The sun when we first arrived was making his daily revolutions round us, not going at all below the horizon. But at midnight on Sept. 9th the first star seen for weeks was visible. Each night after this there were additions and before the end of the month our nights were as long as the day, and every night Old Sol would lessen his altitude until on the 16th of October—well do I remember the day—he just showed his head above the horizon and then sank out of sight, not to appear again for months.

Did you ever experience a long spell of cloudy weather when you longed for a glance at the sun, when the shadow which covered everything extended itself to your own disposition and to those around you? Imagine, if you can, the effect of four months' darkness, when the dominion of Old Sol utterly ceases and Old Boreas rules supreme, and that too with no gentle hand.

But we had one visitor whose coming was looked forward to with great eagerness by us all, and that was the moon. She would appear first above the eastern horizon as a crescent, and each night thereafter would rise a little higher, until some night—or day, they were all the same—before she was full, would again gradually drop to the horizon and disappear from view. I never before half appreciated her. But to show how ungrateful we are, when the light began to make its appearance above the horizon in the early part of February, and this in turn was overshadowed by the moon, we almost considered it an unwarrantable intrusion on the part of Miss Luna. . . .

The long dreary night at last came to an end. I volunteered for field work and was one of the first to go out. Lt. Lockwood, Sergeant Brainard and I left the station on March 1st with the dog sledge and eskimo driver Frederick. We first went to Cape Buchy and from there across the channel to Thank God Harbor, then crossing the land to Newman's Bay, followed it north to Cape Sumner. We arrived home on the 11th. This was probably the coldest sledge journey ever made, for we traveled with the temperature 55½ degrees below zero, and a brisk wind blowing at the same time, the last being a very important consideration, as the great danger of freezing in this country lies in being caught in a wind which causes the cold to penetrate our clothing, and in extreme cases causes numbness in a few moments. In the present case we found it necessary to watch each other's faces and every few minutes you would hear, "Jewell, your face is frozen" or "Jewell, rub your nose as it is white", until this became of such frequent occurrence that we ceased to notice it at all. . . .

[On a later trip] we reached the other side [of Robeson's Channel] about 11 o'clock at night, and I went to work and made a snow house. As we were very tired we did not get our breakfast until about 11 a.m. the next day. We felt as usual until Ellis crawled out into the open air, and upon my following him in a few minutes I found him as white as a sheet, and hardly able to stand. In a few minutes I also began to feel dizzy and for a short time I could see nothing. But I fought it off and soon began to feel better. I then noticed that the Eskimo was acting strangely, and upon my going to him he exclaimed, putting his hand to his head, "Me all the same too". I was very much frightened for a short time, but upon thinking the matter over, concluded that it was due to foul air in the snow house, but for awhile it looked very dubious as the thermometer was about 40 below zero, and had we all been taken sick the result would have been disastrous. . . .

I had been in the field 23 days in the month of March and had traveled in all kinds of weather, experiencing some very severe storms. But I had obtained much experience and whenever a storm came on I would haul in the sleeping bag and cooking lamp and then I could laugh at the elements. But our sleeping bag was sure to get wet [and then frozen], and then goodby to comfort, for sometimes it would take the united strength of all hands to unroll it, and we would be obliged to work our way into the inside by thawing it out gradually with the heat from our bodies. And when we did finally succeed you can imagine its condition, as the hair was in the same condition as a drowned rat.

To this day the family has never been permitted to see the entire diary.

Understandably, after the return of the rescued men rumors began to circulate. How, after all, had the survivors managed to keep alive as long as they did after the mouldy dog biscuit and sealskin were gone and the food allowance seemed entirely inadequate to sustain life? Why couldn't the coffin be opened, the diary read? There was an obvious answer, of course. Finally Fred Howland managed to get official confirmation—even though only by word of mouth—that "the bodies of those who died were necessarily used to keep the others from starving".

Why should such efforts have been made to keep this secret? There is, first of all, the practical consideration that information such as this is so likely to work its way out. When it does, the fact that the authorities have endeavored to cover it up will make the occurrence seem much more reprehensible.

And then, is this such a shocking thing? No doubt to many people, well fed and in the usual condition of physical well-being of most of us, it is. But these usual conditions do not obtain absolutely without exception; to men dying of starvation the ordinary ideas of morality are no longer pertinent. The instinct to survive is powerful and it seems to me that nothing is more natural and obviously right than for a starving man to eat anything at all which might keep life in his body a little longer.

Our friends who know this story refer to the Jewell Trail as the "Eaten-Uncle". While not strictly accurate, this title is more euphonious than the more exact "Eaten-First-Cousin-Once-Removed Trail". And my father often told the story (for the veracity of which I assume no responsibility) of attending, many years later, a reception in honor of General Greely and of remarking to him, as they shook hands, "How do you do, General. I understand that you ate my wife's cousin."

MIRIAM UNDERHILL

BOOK REVIEWS

The White Spider: the Story of the North Face of the Eiger. By Heinrich Harrer. Translated from the German by Hugh Merrick. New York: E. P. Dutton and Co., 1960. 240 pages, 50 photographs and sketches, index. $6.95.

This is a book which might have been many things. It might have been sensational, it might have been a diatribe against dangers in climbing, it might have been a mere historical recital, but it has succeeded in being an intensely interesting story of human strengths and weaknesses. The sham of the self-righteous critics, the obloquy heaped on the unsuccessful have been neatly stripped away and the human qualities of the climbers themselves stand out clearly defined against the stark and forbidding face of the Eiger. One cannot read this account without appreciating the tremendous amount of correspondence and research which went into its preparation. No better prepared author could have appeared, for as one of the first party to make the ascent he is thoroughly familiar, not only with the physical difficulties and problems involved, but also with the human ones of sheer endurance and nervous tension.

This is far from a mere recital of success and failure. The reader lives the climb as each of the various actors faced it, and obtains a clear insight into the tremendous qualities of heart and mind that impelled them on their quest. Whether one reads the book as a mountaineer with climber's eye for detail, or in search of a tale of adventure, the story is beautifully told, the suspense sustained, and the enigma of the 1957 party still unresolved. The book well deserves to be read by all climbers, whether proponents of the "sixth grade" or not.

KENNETH A. HENDERSON

The Last Blue Mountain. By Ralph Barker. New York: Doubleday and Co., 1960. 210 pages, illustrations. $3.95.

"Often, in a nightmare, one was able to tear oneself out of it . . . yet somehow he couldn't do it, he couldn't thrust the nightmare away from him; it went on and on and he was still in the crevasse."

John Emery's awakening in the crevasse, high on 24,270-ft. Mt. Haramosh in the Karakoram is only a part of the nightmare he and Tony Streather lived through—and Rae Culbert and Bernard Jillott did not! In *The Last Blue Mountain*, the story of the Oxford University Mountaineering Club expedition of 1957, bad weather so limited the actions of the climbers that eventually their goal became merely to reach the northeast ridge as a reconnaissance for future parties. Four climbers reached the ridge, but in the moment of their triumph an avalanche swept two of them down a steep snow slope, over some sheer ice cliffs, and into a snow basin. These climbers were not seriously hurt, but from here on the story of what happens to all four men seems a tragic fantasy. The reader, like John Emery, seems to be in a dream-world on an agonizing, impossible mountain, where he is perpetually at an altitude of over 20,000 feet, climbing a 60° snow slope without ice-axe, with one crampon, half snowblind, without mittens—punching bare fists through the crust to make bloody steps. There is the nightmare of standing in small steps without a belay and being dragged off by another man's fall; of climbing slowly, painfully upward and again being dragged down.

Yes, a grim story—one of the grimmest—but through it shines the pure gold of men who risked and gave their lives for their companions. Life has no greater generosity.

Ralph Barker was not a member of the Haramosh party, nor is he a mountaineer, but he has produced a clear, vivid account of the struggle of five men: three Englishmen, a New Zealander and an American. The fact that he is not a mountaineer perhaps makes it easier for him to write objectively and to analyze the climbers of the party as no member of it could do. There is, for instance, the energy, enthusiasm and lack of judgment of one climber and the sound, quiet determination of another. Barker at times fails to give details that the climber wishes to know; but the average reader has no interest in the type of ice, the method of crossing a bergschrund, or the form of belay, and although Barker cannot describe how a crevasse looks from inside, or how it feels to traverse a steep ice slope without an ice-axe, he builds suspense well and has not elaborated the sad but beautiful story of the struggle for survival following the avalanche.

Whether or not one has stood on steep ice, this story wrenches at one's inmost feelings. Tragedy of course is part of all our lives; "the bell tolls for thee". But Culbert and Jillott dead, two gallant gentlemen, and Emery maimed for life—we can't forget them. Yet there is comfort that sometimes the fates can be defied, for three men returned because of the stamina and judgment of a courageous man devoted to his companions: Tony Streather. *The Last Blue Mountain* should be required reading for everybody who sets off to climb in high mountains. It tells of brave men and a real nightmare. This story will live.

ROBERT H. BATES

North Ice, the British North Greenland Expedition. By Commander C. J. W. Simpson. Drawings by Ann Simpson. London: Hodder and Stoughton, 1957. 384 pages including appendices. 40 pages of illustrations (8 colored), 4 maps (2 on end-papers), 2 plans. 37 shillings, sixpence.

From 1949 through the summer of 1954, after two full seasons in the field, is the time span of this absorbing account of the genesis and successful execution of a plan to explore a little known part of the northeastern coast of Greenland, Dronning Louise Land. In retrospect, after the much publicized expeditions of IGY, this modest expedition takes on special significance. The successes of the later ones depended in good part upon the experience gained by just such an expedition as this was.

Commander Simpson shares authorship with many members of his group as these detail particular activities, or furnish glimpses into the life of the small parties who carried out various programs of the expedition. As support was increasingly forthcoming for Simpson's idea of an arctic training expedition for service personnel—with the purpose and justification of increasing knowledge of unknown country—

so did the objectives of the group multiply. Gravity studies, seismological studies, ice studies, meteorological studies, not to mention the original idea of exploration, occupied various members throughout the two years spent in Greenland. Before the work was done, one group crossed to Thule and another penetrated deep into the interior of the island.

One is impressed anew with the complexities of modern arctic exploration. Because this was a relatively small group to sustain so long a period in severe country, the account of the problems, difficulties, aspirations, frustrations, and successes has an immediate and personal impact upon the reader. The impressions are like those obtained from reading the nineteenth and early twentieth century accounts of arctic exploration. The impedimenta of modern technology were there, and vital, but more vital still to the ultimate success or failure of the expedition was the will of human beings to make it work, however difficult that might prove to be.

This is an important book and the publisher is to be commended upon its presentation. It is readable, but by no means light reading.

BENTON L. HATCH

Because It Is There. By George Lowe. London: Cassell & Co., Ltd., 1959. 215 pages, 32 pages of photographs, maps. 21 shillings.

George Lowe was the photographer on the Commonwealth Trans-Antarctic Expedition of 1955-58 and he crossed the continent from the Weddell Sea to McMurdo Sound with Sir Vivian Fuchs' party. Most of the book is a personal account of his part in this undertaking, but a few of the early chapters are concerned with his New Zealand and Himalayan climbing, including the successful Everest expedition of 1953 in which he played an important role. Of particular interest is a brief comparison, from personal acquaintance, of Fuchs, Hunt and Hillary, three of the most famous expedition leaders of the post-war era. The photograph collection is not so good as that appearing in the official story, *The Crossing of Antarctica* by Fuchs and Hillary, although the majority of the photographs in both books were taken by George Lowe.

ROBERT L. COLLIN

Mountains in the Sea; the Story of the Gough Island Expedition. By Martin Holdgate. New York: St. Martin's Press, Inc., 1958. 222 pages, illustrations, maps. $5.50.

The initial attraction of this volume is that Gough Island, eight miles long and four miles wide, is one of the peaks of the Mid-Atlantic Ridge, the huge mountain range lying beneath the waters of the Atlantic Ocean. It runs through 120 degrees of latitude from Greenland and Iceland to within a thousand miles of the Antarctic continent, and among its highest peaks are the Azores in the north, then St. Paul's Rocks, Ascension, St. Helena, the Tristan da Cunha group, Gough Island and Bouvet Øya, all volcanic and remote from continental land masses. Gough Island offered other justifications for an expedition than its association with the Mid-Atlantic Ridge: first, that its indifferent mapping had all been done from the sea, with resulting charts representing only the coastline and leaving the mountainous interior largely unmapped and unexplored; second, that a study of the island's weather would be helpful to forecasting in South Africa; third, that next to nothing was known about the animals and plants of the island.

Martin Holdgate writes well, and something in the way of a dependable foretaste of the book's quality as an adventure story is given in a foreword written by the Duke of Edinburgh, which concludes: "If every man has to face his Everest sometime during his life, I strongly recommend him to get his Gough Island in first. There is no better preparation."

Holdgate's skill as a writer has made it possible for this slender volume, in its first eighty pages, to cover the personnel and objective of the expedition, the history of settlements on Tristan da Cunha, and the problems of the present 250 Islanders. The second half of the book gives the really exciting story of establishing Base Camp on Gough Island and, after a month's exploration and hard work, High Camp at the edge of Barren Dome (2430 ft.), weather observations under grim difficulties, and surveys of the island's wild life—sea-elephants, fur-seals, the little black island rails or "cocks", penguins, skuas, several varieties of albatross, petrel and bunting—and the Island's plants. Geological details are given in connection with explorations of the sawtoothed summits, of which a dozen top 2500 feet. The generous number of photographs in color and black-and-white make real the superb end-map.

The expedition, with its forty species of flowering plants, nearly doubled the list of those collected by Lars Christensen in a stroll of a few hours in 1933. Some of the species will probably turn out to be new to science. The reader is given fascinating discussions of the possibility of either human introduction of flora or transport by wind or by birds, and it would be difficult to find a clearer explanation for the layman of the meaning of varieties of trees, ferns and grasses than that here given. A similar comment can be made on the chapter "Birds of the Land and Sea", with seventeen illustrations, two of them in color.

A volume of unusual charm, the reading of which gives exceptional pleasure.

Eva Adams Macmillan

Circumpolar Arctic Flora. By Nicholas Polunin. Oxford: Clarendon Press, 1959. 514 pages, with many illustrations. 6 pounds, 6 shillings.

This stout volume, to be followed by three others on *Arctic Botany,* is the result of eighteen years' work of an expert well known for his three volumes on the *Botany of the Canadian Eastern Arctic* (Ottawa, 1940-8), as also from his investigations during several years in various American herbaria, and for nearly twenty collecting expeditions in Arctic Asia and North America. In addition, he has familiarized himself with subarctic areas, such as Alaska, Labrador, Iceland and Lapland. His definition of "arctic" (p. vi) is rather technical, concerning itself with "areas lying north of whichever of the following is situated farthest north . . . (1) a line 80 km. north of the northern limit of coniferous forest . . . , (2) north of the present-day limit of at least microphanerophytic growth (i.e., of trees 2-8 m. high), or (3) north of the Nordenskiöld Line". These technical limits exclude much of what in unscientific parlance is called "the Arctic", but the southward extension of many of the truly arctic plants brings a very considerable portion of the species here described within the botanical experience of those familiar with our so-called "arctic-alpine" flora, as it is found on the Presidential Range, the cliffs of Willoughby, Katahdin, and the Shickshocks.

The vast areas centering about the North Pole Polunin further divides into somewhat pie-shaped sectors, ten in number, of about 30 to 35 degrees each, and the presence or absence of a plant in these sectors is duly recorded, some species being completely circumpolar, others, as at present known, occurring in only one or two sectors. The author realizes a certain lack of uniformity in the data from the fact that the large regions of Asiatic arctic Russia cannot, at present, be as fully listed as are those of the Canadian Arctic.

Dr. Polunin is definitely conservative in recognizing the traditional specific divisions rather than the host of minor divisions of the species (subspecies, varieties, *formae,* etc.) in favor with many modern systematists, hence he is constantly characterizing species as *"s.l."* (i.e., *sensu latissimo,* "in the broadest sense of the term") or "agg." for aggregates of species (on p. xiii these two terms might be more sharply differentiated or reference made to p. 469). Within these limitations, Polunin's treatment recognizes (pp. x-xi) 66 plant families, 230 genera, and 892 species—a modest total considering the broad extent of territory covered, and strikingly illustrating the difference between the rather uniform boreal flora and the wide variety to be found in the temperate zones and particularly in the tropics.

An abundance of carefully prepared dichotomous keys lead the student first to the family, then to the genus, and finally to the species of the plant he seeks to identify. At that point will be found a full diagnosis, accompanied by a statement of the general geographic range and by a well-drawn picture of the plant's essential parts. These cuts, prepared by several botanical artists, compare well with those in A. E. Porsild's *Illustrated Flora of the Canadian Arctic Archipelago* (1957), though in a few instances the differences between two neighboring species is not quite obvious. Thus *Isoetes echinospora* is not, in the picture, clearly differentiated from *I. lacustris, Larix laricina* from *L. dahurica, Agrostis borealis* from *A. canina, or Luzula confusa* from *L. Multiflora,* while four species of *Alchemilla* are inadequately distinguished in their illustrations. In the case of *Viola Selkirkii* two of its most striking characteristics—the filiform rootlets and the very individual leaf-sinuses—are not very clearly brought out. But such cases are infrequent.

Naturally a good many technical terms are employed in this book, but a very full and usable glossary (pp. 469-485) should make things clear even to the amateur. Seldom have I seen a book of this sort so consistent in its punctuation, abbreviations, order of citations, and other indications of careful composition and meticulous proof-reading.

And, though the author modestly professes (p. viii) that this volume is not a final but a provisional one, since the treatment of smaller entities, like subspecies and varieties, must "await the availability of far more Russian material than is at present to be found in western European and North-American herbaria", it is a reasonable prediction that this volume will for a long time prove helpful to its users, both professionals and amateurs.

ARTHUR STANLEY PEASE

Chronique Himalayenne; l'âge d'or, 1940-1955. By Marcel Kurz. Zurich: Fondation Suisse pour Explorations Alpines, 1959. 441 pages, 69 photographs, 16 maps, index. 75 Swiss francs.

The plans for the contemplated three-volume work by Marcel Kurz on Himalayan climbing have been altered; the present volume covering the period 1940-1955 will be the only one issued. As usual in the writing of M. Kurz, great care has been taken to insure accuracy. A portion of the material included here has already been published in *Berge der Welt* and its English-language edition, the *Mountain World,* but the activity became so great during 1952-55 that it was impossible to include everything in the *Mountain World.* The present volume is the result. Even the previously published material has been reworked in the light of later knowledge, so that this work is all or largely new. It will serve as a convenient reference book on Himalayan climbing during these years for a long time, since great care has been taken to present as fully as possible all the facts, especially where criticisms have been expressed or controversy has raged.

The style is clear and concise, and the language free from colloquialisms. The plates are excellent and beautifully reproduced. The small sketch-maps are most helpful for following the accounts. The chronological table of ascents for these years, which also contains references to original sources, along with the accounts in this book, will be found most useful, while the index is very complete.

We can only regret that M. Kurz' reports of previous Himalayan climbing are not going to be subject to the same treatment. His accounts in *Die Alpen,* together with the present work, will provide an invaluable source of information on Himalayan activities. An English edition of this book is contemplated for next year but no German edition is planned.

KENNETH A. HENDERSON

A History of Polar Exploration. By L. P. Kirwan. New York: W. W. Norton and Co., Inc., 1960. 374 pages, 13 pages of photographs, 5 maps. $5.95. (In England this book is sold under the title: *The White Road.* London: Hollis and Carter, 1959. 30 shillings.)

Mr. Kirwan, director of the Royal Geographical Society, has written an excellent survey of polar exploration from classical to modern times. In the book the author is concerned with the motives for polar exploration, namely economic, strategic, personal and political.

The author tells how commerce started the Greeks on voyages of discovery, and how in later days the need for a sea route to Cathay brought about the search for a Northwest and a Northeast Passage.

Although these passages eluded man for centuries, many new lands were discovered and claimed. Economics and the depletion of Arctic seals and whales led to the discovery of the Antarctic continent and its early exploration. In the last seventy-five years scientific discovery and the conquest of the poles has attracted more expeditions. Although each expedition is treated in a short space one gets an excellent overall picture of polar exploration.

The British play an important part in the book, but Mr. Kirwan has been quite objective in evaluating each expedition. He relates, for example, how American and Scandinavian explorers survived by learning the ways of the Eskimo, while the British sometimes perished by refusing to adapt themselves.

The book contains an excellent bibliography showing the debt to past authors, but unpublished material in the Scott Polar Institute and the Royal Geographical Society has also been drawn upon.

Among the many books on polar exploration which are now available *A History of Polar Exploration* is outstanding.

JOHN R. T. MOLHOLM

An Eccentric in the Alps. By Ronald W. Clark. The Story of the Rev. W. A. B. Coolidge, the great Victorian Mountaineer. London: Museum Press, 1959. 224 pages, illustrations, 35 shillings.

In 1953 Ronald Clark published a book called *The Victorian Mountaineers* which contained a 29-page sketch of W. A. B. Coolidge, the transplanted American climber; he has now followed this up with a full-length portrait of the same man.

Coolidge's career and personality can well stand this expanded treatment. Though by no means an expert climber, and never competent to go without guides (which he did not), he was an indefatigable, tough and courageous one. His record of 1700 Alpine ascents was equaled (but surpassed in quality) only by that of the Austrian Ludwig Purtscheller; it contained many notable firsts, especially in the Dauphiné. Although none of his expeditions would be considered really difficult today, Mr. Clark rates him as a great mountaineer because of three things: his exploration of the Dauphiné, his use of high bivouacs (where, at the time, no alpine huts existed), and his inauguration of winter climbing (without skis, naturally) on a large scale.

More distinguished than Coolidge's climbing record, however, was his scholarship. He became the leading authority of his day on the history of mountaineering in the Alps—and indeed, he has had no rival since. Unfortunately, his writing was that of the proverbial scholar, or quite without charm, and some of his books are unreadable except by other scholars engaged in verifying details. Yet he did join with Sir Martin Conway in editing the very useful series of *Climbers' Guides* from which all our modern Alpine guidebooks have stemmed.

The facet of Coolidge's personality to which Mr. Clark's title primarily refers was his penchant for controversy. It is in the detailed history of Coolidge's quarrels with other climbers and with the Alpine Club that the present book offers the greatest amplification of the excellent sketch in *Victorian Mountaineers*. (In the meantime, Sir Arnold

Lunn's pages on Coolidge in *A Century of Mountaineering* had appeared, supplying additional pertinent information.) The story of these quarrels is certainly not an edifying one, because of their generally trivial occasions, and yet it offers an important field of study to the psychologist. I cannot think that Mr. Clark has always interpreted the data properly: he is not much of a psychologist himself, to begin with, and he is rather naturally blind to certain British peculiarities which may at times have irritated Coolidge (in spite of the fact that he never thought of himself as an American). Sir Edward Davidson, for instance, the object of his greatest and most long-standing enmity, may well have been a rather unpleasant person, outside his own immediate circle; and the then secretary of the Alpine Club, in replying to Coolidge's offer of his library, reacted in an inexcusably stuffy fashion. However, none of this absolves Coolidge from the charges of being ridiculously vain and lamentably small-minded. Mr. Clark's labeling of him as "an eccentric" seems to me far too generous; even Sir Arnold Lunn's epithet "cantankerous" lets him off too easily. I should put it this way: the man is the greatest single piece of historical evidence in refutation of the theory, so beloved of mountaineers, that having to do with mountains inevitably enlarges the soul and lifts it above all pettiness. So far as these qualities are concerned, mountain climbers seem to vary among themselves about like any other class of persons—with the Reverend William Augustus Brevoort Coolidge near one end of the scale and, say, Geoffrey Winthrop Young near the other.

ROBERT L. M. UNDERHILL

The Survival Book. By Paul H. Nesbitt, Alonzo W. Pond and William H. Allen. Princeton, N. J., Toronto, New York and London. D. Van Nostrand Co., Inc., 1959. 338 pages, many charts, pictures and diagrams. $7.50.

This volume contains a wealth of information on what to do and what not to do in order to assure survival in various localities. Although it is written primarily for the airplane traveler who risks the possibility of a forced landing under adverse geographical or climatic conditions, there are sections which deal with situations of a nature similar to those in which a mountaineering party might become involved.

In general, the information is presented in several parts. The introductory section comprises a basic discussion of survival stresses encountered and emergency procedures to be followed by the man who wishes to survive. The succeeding sections deal with specific areas, including Arctic and Subarctic (Cold), Desert, Tropical Rain Forest, Savanna, Seashore and Coastline, Ocean and Sea. Each of these areas is subdivided to include a discussion of the environment that might be encountered and specific instructions as to survival procedures.

The book is a well written basic course of instruction with many excellent illustrations and charts. It is apparent that it has been prepared by men who have had a great deal of experience in this field. It should be required reading by all expedition leaders as a supplement to basic leadership training.

JOHN C. PERRY

Great Days in New Zealand Mountaineering. By John Pascoe, with foreword by Sir Edmund Hillary. London: Bailey Bros. & Swinfen, Ltd., 1959. 199 pages, 16 pages of plates, 19 sketch maps. 21 shillings.

The author insists in his preface that he writes for the layman and only incidentally for the mountaineer. It may be doubted whether he is entirely successful in this aim, especially in the case of foreign laymen, who would not know from the context the meaning of such expressions as "snow gut-boss", "field the pack", etc. But the narrative and description flow along in a graceful style which makes good reading for any who know something about mountains. The chapter "Rescue to the West" is at least one that laymen could enjoy, and the story of the ascent of Mt. Egmont with the author's 11-year-old daughter, shortly after six climbers had been killed, is one that should be required reading for all those who decide that they must climb a mountain and know not what may be entailed in the venture. This chapter is a classic example of the right amount of unlabored emphasis in the right places. Each chapter has an excellent sketch map. The pictures are about average in quality and very illuminating to those who are not familiar with the Southern Alps.

LAWRENCE G. COVENEY

Guide to the Wyoming Mountains and Wilderness Areas. By Orrin H. Bonney and Lorraine Bonney. Denver, Colorado: Sage Books, 1960. 389 pages, 99 illustrations, 24 maps, index. $6.50.

At long last the information on the mountains of Wyoming has been gathered together into a readily available form. The casual mountain wanderer or the climber can now find and check in a few moments details which would, only yesterday, have taken long hours of research. This is more than a guide for travelers, however, for there is also included considerable historical material to make the journey more interesting. The authors' views on the climbs made by Captains Bonneville and Frémont are new, to say the least, and have much merit. The authors have also found new material on the Langford-Stevenson climb of the Grand Teton in 1872, and have discovered an ascent of that peak in 1893, which predates that of Owen in 1898. Indisputable evidence has been produced that Owen himself was aware of this climb, despite his complete silence on the subject during his long period of assertion of his own claims.

The textual material includes the origin of the name of each peak and the history of its ascents, as well as descriptions of the routes. Unfortunately, although the material in most cases is quite complete, in the case of the Teton peaks there has been a tendency to omit some of the routes, referring the reader to the Ortenburger guide for details. The book thereby loses some of its value for reference, a value which it might have retained had the mention of the routes been included even though descriptions were omitted to save space and duplication.

In view of the known dislike of the Board on Geographic Names for the use of the names of living persons for geographic features, the authors' penchant for such usage may well be questioned. The size, 6½x9½ inches, and the weight, 1 lb. 13 oz., militate against the use of the book in the field. The large number of illustrations adds to the attractiveness and value of the book, but the indifferent reproduction is disappointing. The final chapters on skiing, canoeing and rock collecting may well evoke an interest which will bring about an increase of activity in these sports.

Anyone interested in the mountains of Wyoming will find this a necessary addition to his library. Those devoted to climbing history will doubtless pursue further the leads and theses which are here developed. In summation, a most worthwhile and valuable addition to American mountaineering literature.

KENNETH A. HENDERSON

Penobscot: Down East Paradise. By Gorham Munson. Philadelphia and New York: J. B. Lippincott Co., 1959. xiv and 399 pages, 12 woodcuts by Carroll Thayer Berry, 2 maps. $6.00.

Applicable to the Penobscot Bay and Penobscot River regions as far as Katahdin and further up-river, this volume provides a tremendous amount of history from earliest colonial days to the present. Depending on the reader, this may be informative and educational—or exceedingly dry. Certain types of intellect, a historian's perhaps, may enjoy more than will the average reader a constant harping on the frailties (as well as the strong points) of personages long since faded into history if not oblivion. Admittedly written for the summer people, the book also supplies much information about where to go and what to see today—all of which can be obtained less expensively in a tourist's guide. Left as uncompleted is the scenic road from Matagamon Lake on to Sourdnahunk Lake and the Ripogenus Dam road.

WENDELL TABER

Old Peppersass: The Locomotive That Climbed Mt. Washington. By Leonard A. Stevens. New York: Dodd, Mead and Co., 1959. ix, 233 pages, many line drawings. $3.00.

"Old Peppersass" will be recognized by many as the nickname of the first engine to operate on Mt. Washington's Cog Railway. It was built in 1869 and, though retired from service, may still be seen on display at Base Station. Mr. Stevens, the author of this book, spent his childhood in Lisbon, New Hampshire, where he became well acquainted with both the mountain and its railroad. Out of this knowledge he has written a story for young people on how the old engine and its track were first constructed by two ingenious New Englanders and a 14-year-old boy, a story part fact but mostly fiction. There's plenty of action, and the sections on the Mt. Washington climate and terrain are accurate enough to be of real educational value to young readers.

However, the book raises the question of how justified an author is, in writing so-called historical fiction, in laying aside known fact in order to create fiction. True, Mr. Stevens states very definitely in his foreword just what is fact—the actual old engine, built in its final form as described in the last chapters of the book. But a lot of the story which lies between the first and last chapters also sounds like fact to the young reader, and would lead him to believe this is actually how the old engine evolved, whereas the timing, people and events are all pure fiction. The time of the story is not so distant but what certain actual steps in the engine's evolution can be ferreted out. (See the article "Sylvester Marsh's Railroad", by Richard G. Wood, in APPALACHIA for December 1950, pp. 219-224.) I believe an equally interesting story could have been written based on these true facts, where known, with imaginary incidents to illuminate, not contradict, what really did occur.

Although the drawings by Frank Kramer enliven the text, some photographs of the mountain and railroad by Mr. Stevens, a professional photographer, would have added to the book.

ABIGAIL AVERY

BRIEFLY NOTED

Mountain Operations. Published by the Department of the Army as Field Manual 31-72. Washington: Government Printing Office, 1959. 238 pages, sketches. $0.65. (Order No. D 101.20:31-72.)

Although ostensibly a manual on the leadership of troops in the mountains, there is included a climbing manual and, in quite brief form, much valuable material on weather, hygiene, etc., which should be of interest to all who ever lead parties of whatever size in the hills. While the latest information on rescue equipment is lacking, there is much of value on this score, especially on the problem of moving injured men up and down cliffs and over rough country.

Family Camping Directory, 1960-61 Edition. Janesville, Wisconsin: Barcam Publishing Co. 161 pages, numerous maps. $2.00.

A paper-covered 8½x11 wire-stitched magazine giving a listing of all state and national camping areas. An incomplete number of private camps is included—unfortunately, omission of several known ones in certain highly crowded camping areas of New England is noticeable.

The forty-nine states are presented by regions, a Rand McNally map preceding each state or group of states. These maps are keyed for each camping area. A chart listing of the campgrounds includes check columns for access roads, nearest town and mileage, number of sites, facilities and activities available, etc. A table of contents, brief introduction, and suggested list of necessities complete this worthwhile directory.

Teach Yourself Mountain Climbing. By Godfrey Francis, with diagrams by Erik Thorn. London: The English Universities Press, Ltd., 1958. 192 pages, photos, many line drawings. 7 shillings sixpence.

Sponsored by the British Mountaineering Council, this little book is probably the best introduction to mountaineering available today. The discussions cover not only classical but also modern techniques and equipment—tension climbing, vibram soles, pitons, etc. (but expansion bolts only in passing mention). Climbing conditions in Britain (not too unlike ours) receive first consideration, but those in the Alps are also treated. At the price an outstanding investment.

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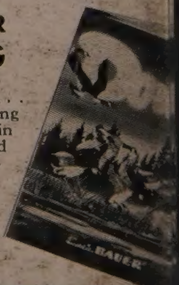

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